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BEST SOURCING - TOWARDS LEAN ICT SHARED SERVICES IN A SINGAPORE GOVERNMENT ORGANISATION

by

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A Management project presented in part consideration for the degree of Master of Business Administration

The organisation names have been changed to protect the identity of the intended organisation.

Abstract

Many government organisations in Singapore have been embarking on a strategic decision to drive lean public service by pushing down costs for operating expenditures, improving service performance and concentrating all or most of the resources available on core business. In such circumstances, outsourcing becomes almost inevitable. Outsourcing allows the organisation to focus on its core business by transferring operational functions to external specialists.

Public Provident Service (PPS), a public social security organisation, faces the same dilemma of escalating IT costs and reduction in service performance due to increasingly being required to coordinate the delivery of duplicated services across business units. The evolution began one year ago when PPS made the bold, sweeping decision to have an external, market-tested Information and Communication Technology (ICT) organisation to execute standardised operating ICT operations. Some may call this outsourcing, but PPS's new approach to sourcing strategy was to build a partnership between best sourcing and shared services.

This dissertation was to study the impact of ICT outsourcing in PPS. This research starts with a detailed literature review that highlights the pros and cons for different sourcing strategies and outlines the key findings of other authors. In the analysis chapter, different aspects of business, economic, shared-services and technical on sourcing strategies are examined that helped PPS to devise the best sourcing on shared ICT services strategy plan. The subsequent analysis would address the key business areas in which the organisation needs to achieve significant improvement if it has to meet its strategic objectives. Furthermore, it addressed the consequences on the business operations and changes, risks and challenges to overcome finally the implementation of the best sourcing on ICT shared services.

At the end, the main conclusions from this study is that the best sourcing on shared ICT services strategy plan drives PPS towards lean and efficient public services. With a standard ICT operating environment implemented in PPS to derive significant cost savings while enhancing operating efficiency and providing higher quality service performance.

Acknowledgements

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List of Abbreviations

EA Enterprise Architecture

ERP Enterprise Resource Planning

ICT Information and Communication Technology

ITSD IT Service Division

PPS Public Provident Service

SSC Shared Service Centre

1 Introduction

1.1 Background and Context

Public Provident Service (PPS) is the largest social service organisation in Singapore, serving 3.1 million members with a total members' balance of SGD119 billion. Its basic service is to help its members meet primary needs such as shelter, food, clothing and health services in their old age or when they are no longer able to work. It offers a wide range of services, including withdrawals by the member for retirement, permanent disablement, home ownership and healthcare. The strategic objective of the organisation's operation is to provide better customer service using technology as an enabler to increase PPS's service agility and reduce service costs.

The internal ITSD delivers ICT services that support the organisation's core processes, such as investment, finance, retirement, healthcare and housing. A high adoption of ICT across all business operations will enable better delivery of services to meet the needs of PPS members. Two years ago, PPS found that it's in-house ICT department was becoming unable to cope with the pressures place on it by the needs of the business. The overheads associated with keeping the ICT department up to speed were never ending; staff training & new recruitment, hardware costs, degraded service performance, infrastructure maintenance, expansion and more.

As organisations search for new ways trying to improve themselves, the development of new sourcing strategies and approaches becomes an increasingly attractive option. In other words, PPS wants to enhance its performance and reduce cost using new ways. The best sourcing the shared ICT operation is one of the possible ways to achieve this and more research is necessary. This is why it is important that this dissertation would form the basis for further research on the impact of best sourcing in shard ICT service in a local governmental organisation and the implementation of the ICT outsourcing project.

1.2 Problems Discussion and Statement

The IT Services Division (ITSD) of the PPS is responsible for the supply-chain and resource management of the entire organisation of 1636 computers. It undertakes 100% of the IT systems support, maintenance and supply-chain jobs performed by in-house IT staff. The total computer size in PPS has seen a 26% increase since 2006 and is expected to increase to 1875 machines in the next two years. The administration and maintenance jobs have become increasingly complex with different business units demanding different specification of computers to meet their business needs. Advances in technology, the integration of highly complex software applications and IT into PPS's computer systems have also posed new challenges to the current computer management process.

Due to increase in computer size, the total number of computer administration and maintenance jobs has shown exponential increases. This has led to piece–meal sourcing and continuous adaptation with little changes at the process levels. In addition, the inventory information for computers is not accurate as it involves manual updating of information and is done once a year.

The ITSD has divided the responsibility for its IT supply-chain services such as procurement and inventory management among 86 business unit departments. Thus, these internal departments are unlikely to have the resources, focus or political will to improve their internal processes. Each business unit operates its independent supply-chain processes. Hence, duplication of similar supply-chain services and poor coordination between processes, being provided throughout the organisation. The result was a longer turnaround time and higher cost.

Fluctuation in the order fulfilment for IT supply-chain is caused by bullwhip or Forrester effect. Each business unit operates independently. Thus, it resulted in different and misaligned IT service ordering policies and timing to meet PPS's business demand in providing social service spikes on month-ends and whenever new policy changes.

With internal IT administration of a business process separately managed by individual departments, divisions or lines of business, it increases the complexity of maintenance support and procurement. This resulted in the purchased order process time of 30 days, IT supply/demand planning time averaging at 45+ days, internal staff satisfaction is 15%, and the

computer maintenance times takes about a week. The current staffing structures in ITSD comprising 350 staff, mainly attend to maintenance, supporting systems applications, upgrading, and supply-chain activities for 86 business unit departments.

In supporting the business units, the number of IT staff range from an average of 3-4 staff per department. Their scopes are limited to proposal acceptance, contract negotiation, procurement, inventory of computer parts, accountability of the departmental computers and very simple frontline maintenance.

In terms of career progression, there is little job challenge and stagnancy in career progression. Because of the "bottom heavy" profile, the ITSD faced the problem of slow upward growth of its technical staff due to limited vacancies. Most of the lower rung staffs have 10-20 years of service and the problem is further compounded by the fact that lower level IT staffs are not easily transferable outside ITSD.

Since early 2006, the Singapore Government has been pushing all government agencies to drive the new e-economy. The ICT operations at PPS has clearly becoming increasingly important and pushes the need to take on new technology at a time when the ongoing workload is at stressful levels which effectively rule out or limit the chance of re-training. As it usually happens, some of the key ICT staff with the specialised skill resigned. Re-training both new and existing ICT staff raises costs. The PPS knows that the future of ICT function is that new specialisation and application are likely to appear at an accelerated rate. Therefore, there are always skills shortages relating to newest technology development.

Within such environment of escalating ICT costs and shortages of qualified ICT staff to meet increasing ICT demands in responding to faster change, PPS has decided on a strategic choice to buy managed ICT services from external service provider. Either the outsourcing offered as managed ICT services are partially or complete outsourcing strategy, therefore another area of interest for study is best sourcing for shared ICT services for PPS. Numerous studies have been conducted on IT outsourcing; *Successful IT Outsourcing*, Elizabeth Sparrow (2003), *Outsourcing, A CIO's Perspective,* Oakie D. Williams, (1998) and *Where IT Outsourcing is and where it is going,* Kelly and John (2006). However, little is known about the market and its adoption for best sourcing for shared ICT services in Singapore government organisation.

Both best sourcing and shared services strategies on ICT operations have been separated in the past. By integrating these two sourcing strategies together, it is interesting to study how such best sourcing approach helped PPS to achieve substantial cost reduction and to improve efficiency in its ICT shared services so that it can release its scarce resources on developing its core business in social security areas, rather than the technology and processes used to support them. Therefore, the problem statement is '*How can best sourcing strategy help a Singapore Government Organisation shift towards a lean ICT Shared Services*?'

1.3 Research Objectives

The objective of this research is to evaluate critically on the impact of ICT outsourcing in my organisation, PPS. Furthermore, this study would develop a best sourcing strategy in ICT shared services for PPS. In addition, this study would critically evaluate best sourcing strategy in ICT shared services in order to address their key business areas in which the organisation needs to achieve significant improvement if it has to meet its strategic objectives. This paper would also cover in-depth analysis on the business operations and changes, risks and challenges to overcome and finally the implementation of the best sourcing on ICT shared services.

1.4 Research Methods

To answer the problem statement stated in Chapter 1.2, data needs to be gathered. There are four qualitative research methods used for gathering primary data: (1) communication, (2) direct observation, (3) participation in the setting, and (4) analysis of organisational documents and materials, Cooper and Schindler (2001). Communication, in the form of personal interviews, conducted with experts within different parts of the problem area. The experts came from company demographics of interviewee. They included management such as Chief Executive Officer (CEO), Chief Information Officer (CIO), Chief Financial Officer (CFO), Deputy CEO, and department heads of business. These methods, considered as the best to get the holistic view of the research area in focus, and answers to the problem statement. The research started with a study of secondary data regarding the problem area. During this pre-

study, the understanding of the problem grew and the purpose became clearer. The pre-study was the basis for constructing the questions asked during the interviews. Later, the results from the pre-study are analysed in context of the literature review. Conclusions would then derive from the analysis of gathered through these qualitative methods.

1.4.1 Secondary Data

To get more knowledge on the area of focus, I have searched for secondary data on the Internet and in the EBSCO research database, provided by university. The texts found on best sourcing, and shared services are case-study reports produced by ICT companies that are advancing towards providing ICT shared services (*e.g.*, Hewlett-Packard and IBM), analyst reports written by analyst companies Forrester and IDC, and articles written in professional management journals and newspapers. The material is quite extensive. However, I have found none that described, as best sourcing on ICT shared services. Therefore, I also found that this area is immature concerning how such services offered and how best sourcing strategy help organisation shifts towards a lean ICT Shared Services and its success factors recognised in public sectors. There is no literature written on the specific field of best sourcing relating to ICT shared services. Therefore, I studied literature that dealt with the different subjects that this problem focus embraces. This directed me towards literature on ICT outsourcing, ICT services delivery and sourcing strategy. The outsourcing literature is quite extensive but I have chosen literature that covers the main findings and experiences from cases in the area of ICT outsourcing and shared services. The ICT services delivery literature is quite technical, I have been reading literature dealing more with procedures, and methods concerning ICT services work rather than system solutions. I have studied different sourcing strategy literature to understand the sourcing strategies development from a theoretic point of view.

1.4.2 Primary Data

The primary data consist of qualitative interviews. The selected interviewees have extensive knowledge about all sourcing options. Next to that, all interviewee have a managerial function and knowledge about ‘operations’ in PPS. The interviews were all booked a week in advance, and a background to the study and the questions were e-mailed to the respondents before the interview. That gave the respondents a chance to prepare themselves for the interview.

None of the interviews was cancelled. The interviews took place at the respondents' premises.

The time for each interview was between 1 and 1.5 hours. An interview-guide with the three main areas – Current problems, Outsourcing, and IT services - was used during the interviews to cover the whole problem area (see appendix A). I asked questions from the guide, and took notes at the same time the interviews were carried out. Not many concrete questions were asked. Instead, the interviewee was able to build up the discussion and this way of carrying through an interview is typical for qualitative studies.

1.4.3 Pre-Study Research Results

The results of the pre-study research based on the data collected from the interview. Before knowing what factors play a role in sourcing strategy formulation, it is important to know if PPS is willing to source 'operations' and if it is seen as an important issue. *Figure 1* shows that 76% of the respondents believe that sourcing of ICT operations contributes to the organisational objectives.

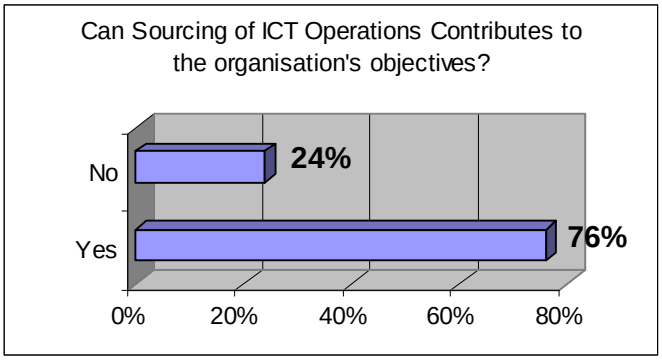

Figure 1 Contribution of ICT operations – Sourcing to PPS's objectives

Another key research question (see appendix A) deal with the question: 'What sourcing strategy work for ICT operations in PPS? It is also an important to know if PPS actually has a specified sourcing strategy that would play an important part in the sourcing strategy decision. *Figure 2* shows that 55% of the respondents believe that both best sourcing and shared services strategies work for ICT operations in PPS.

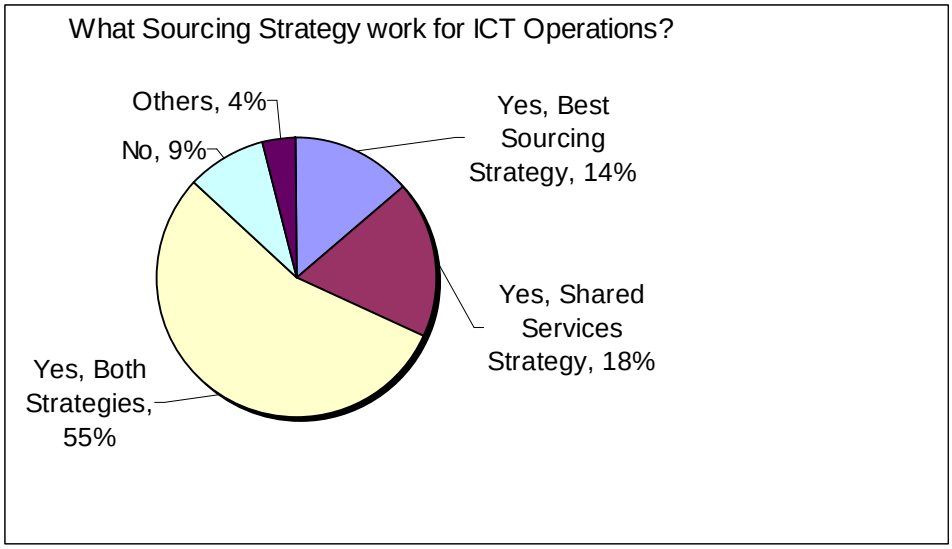

Figure 2 What Sourcing Strategy work for ICT operation

2 Literature Review

This chapter covers the literature review for this paper. The objective is to examine the theory of outsourcing and its relationship to ICT outsourcing. The following part of the literature review covers the theoretical aspects of different forms of sourcing, as well as the sourcing strategies. Finally, relevant theories on outsourcing risks are covered.

2.1 Outsourcing

Outsourcing is defined as being one of allocating or reallocating business activities from an internal source to an external source (Schniederjans et al., 2005). Any business activity in a functional area, such as ICT, which has been historically insourced, can be outsourced today. The main objectives of outsourcing besides supporting functions are - cost cutting, downsizing, and a desire to focus on the strategic business, *i.e.*, core competence (Earl, 1996).

Different author has various views and definitions of the term outsourcing. Yakhlef (1997) stated "At one level, outsourcing has been depicted as a rational response to recessionary pressures, intense global competition, short-life product cycles and rapidly changing customer needs, thus prompting leaner and more flexible modes of organising and producing."

Outsourcing is not a new concept, according to James and Weidenbaum (1993), but can find its origins in the practice of subcontracting production activities. For example, the use of external ICT consultants can be viewed as outsourced services. Indeed, the classic "buy-or-make" decisions on service products, processes and facilities, which organisation have been making for decades are examples of outsourcing from external organisations. Regardless of its origin, outsourcing is not a revolution but an evolution in business organisations and the way they conduct business activities.

2.2 ICT Outsourcing

During the late 1990s, the function of ICT became a popular candidate for outsourcing. The expression "ICT Outsourcing" refers to the practice of managing parts, or all of an organisation's ICT services by external parties (Yakhlef, 1997). Lacity et al. (1996) identified two main reasons behind the trends of outsourcing IT or ICT. First, interest in ICT outsourcing largely results from a shift in business strategy. Many companies in the 1990s abandoned their diversification strategy to focus on the core competence. Second, ICT failed in many ways to deliver the promises of competitive advantage, which created an uncertainty about ICT's value for the business. The consequence is that many senior managers view ICT as a necessary cost to be minimised.

The focus on organisation core competence is one of the most common reasons for organisations to outsource ICT. The concept is to focus capacity and investments on what the organisation does best. External service providers are likely to have achieved low costs and prices through standardisation. The business makes further gains if it can free up internal management time to focus on activities that are more critical. According to Click and Duening (2005), the organisation will achieve higher results by focusing on the core competence and outsourcing other non-critical activities to a high-quality external service provider specialised in that area.

The lack of ICT competence in the organisation can also be a reason for ICT outsourcing. As ICT gets more important, companies are frequently confronted with a wide disparity between the capabilities and skills necessary to realise the potential ICT and the reality of their own in-house technology expertise. According to Agrawal and Carpenter (2007), the single most important reason for outsourcing ICT is the chronic and almost continuous shortage of suitably skilled staff. The areas where the shortage of qualified ICT specialists is now most acute include call centre design, ERP, internet development and data warehousing.

With ICT becoming the lifeline for the globalisation of business activities, ICT outsourcing could play a crucial part in strategies to close this gap. Hence, we see more companies actively outsourcing ICT services by engaging service providers.

2.3 Forms of Sourcing Models

Traditionally, there were only two sourcing models: insource and outsource. However, today's competitive world requires a far greater array of choices that recognise the dynamic needs of organisations and the interplay of internal and external capabilities, as well as the relationships between external providers. There are many different types of sourcing options available for organisations to choose. The question here is how an organisation knows which specific sourcing option to choose. The answer is simply in the part of choosing "in or out" that determines the relationship sourcing option appropriate for the specific service.

In this paper, the model created by Lacity et al. (1996), is used as a framework to present different relationships in the sourcing options. This model, as shown in *Figure 3*, provides a consistent set of concepts for thinking through the ICT sourcing relationship options.

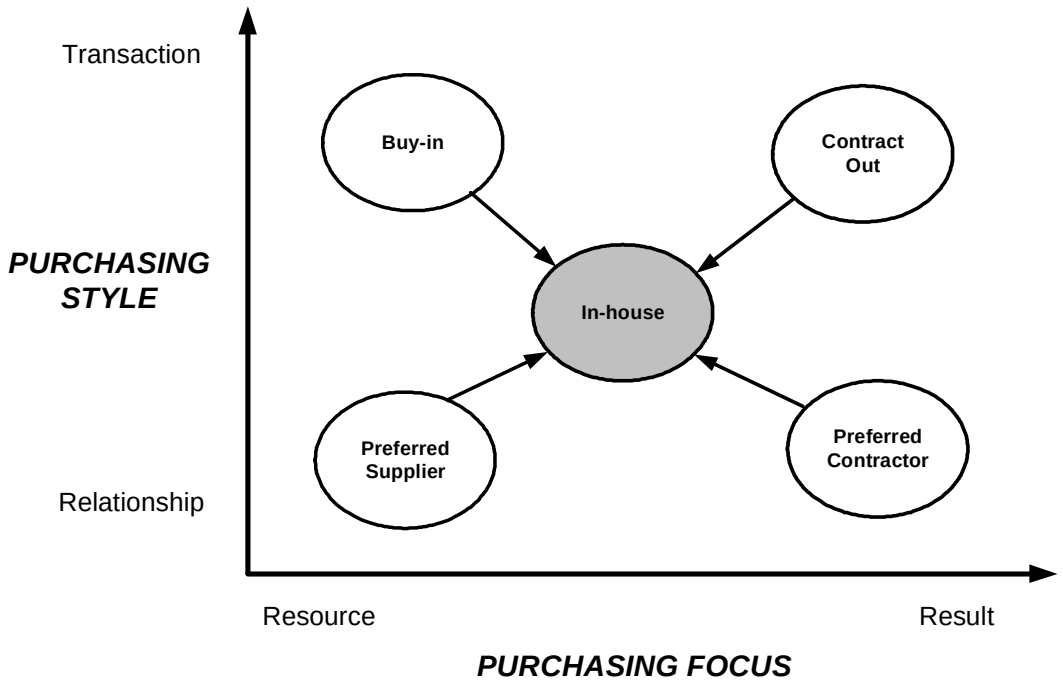

Figure 3 Clarifying Sourcing Models/Options (Lacity et al., 1996)

The concept suggested that a variety of contracting strategies could be used to manage vendors, from buying in resources as a part of in-house (insourcing), to contracting out the entire delivery of an IT function (outsourcing).

This framework can be expanded to present a variety of sourcing relationship models, as shown in *Figure 4*, in the order of progressively greater access, to best-in-class capabilities and progressively less control of service delivery. Five ICT sourcing decisions models are identified to meet different needs and will be further explained below.

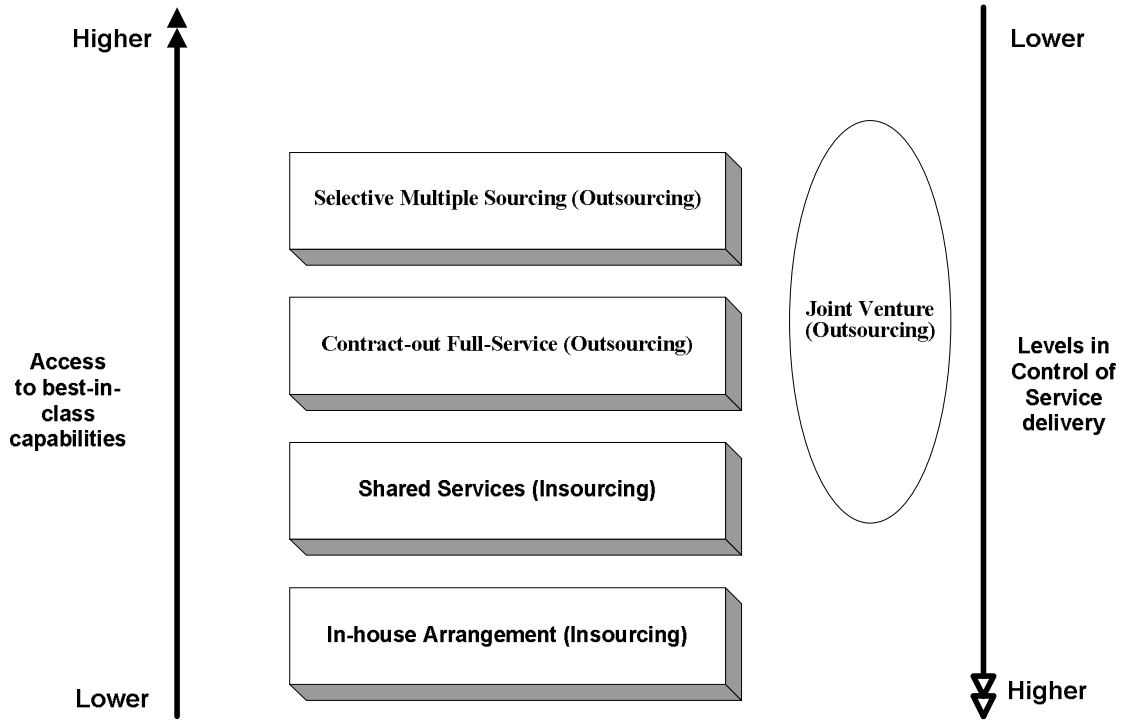

Figure 4 Sourcing Relationship Models

These sourcing relationship models are explained below.

2.3.1 In-house Arrangement (Insourcing)

The most restricted type is a relationship with the internal ICT departments. When ICT activities remain under the organisation's own management, the internal ICT personnel runs the ICT operational activities in-house without attempts to standardise service delivery across business units or geographies. For example, each business unit would have its own ICT function and personnel. These functions would operate independently, with little or no co-operation or leverage of synergies and processes. This strategy provides the most control of service delivery, because the rules and processes that shape service delivery can be changed as much and as often as needed. It is also the most limited sourcing option with regard to scale and process knowledge. Even if much of the ICT activities are contracted out, the in-house arrangement has a critical role. Some strategic ICT functions such as on-line reservation systems should be retained in-house.

2.3.2 Shared Services (Insourcing)

The shared services option is, in essence, an internal company to deliver services to the whole organisation. The key distinguishing feature of the shared-services option is that this internal company operates its own profit and loss statement and, via some mechanism such as chargeback, recoups its cost of operations from the business units that access its services. The key advantage of a shared services option is that it can help the organisation provide standardisation, limited scale and lower cost, via good management of controlling both technology cost and economies of scale compared with internal delivery. The organisation also maintains a high degree of control with relative ease compared to other options, providing customisation of core ICT activities and services when strategic business dictates. The disadvantage of a shared services option is that it does not provide the organisation with the scale necessary to reach the lowest possible price points and requires strong enterprise ICT governance such as Enterprise Architecture (EA) framework to enforce standardisation and improve cost recovery. According to Paul H et al. (2005), many organisations use the shared services option as a first step toward considering outsourcing because it reveals real costs and management issues before involving a third party service provider, *i.e.*, the service provider's

shared service centres. Such service provider is typically a branded-services organisation, for example, HP Global Services, is a step beyond the shared-services option. Quite naturally, branded-services companies see great benefits in setting up their own shared service centres where, for example, the ICT activities of a number of clients' business units can be handled under one roof. In addition, branded services companies offer its shared services to the market at large, not just the organisation that sponsors it. Clearly, in this way, the service provider's shared services centres offers the client-company the potential for greater access to scale and lower costs as overhead costs are spread even wider.

2.3.3 Contract-out Full-Service (Outsourcing)

With this option, the service recipient organisation, *i.e.*, client-company signs a single contract with a single service provider, which is responsible for delivering the result of all ICT functions or activities as opposed to contracting for application maintenance and network management independently. The key advantage of this total outsourcing option provides the benefits of access to scale and less complex management versus multiple service providers that have to interface with each other. The key disadvantages of this total outsourcing option are - the limited access to best-in-class capabilities, *i.e.*, no service provider would be best in class at everything; and the increased delivery risk, *i.e.*, in the event that the service provider fails to invest in improving its capabilities or suffers other business failures, there is no easy alternatives to turn to. For this strategy to be successful, the organisation must be able to define clearly their needs in a complete and airtight contract.

2.3.4 Selective Multiple Sourcing (Outsourcing)

With this option, the service recipient organisation, *i.e.*, client-company takes on choosing and managing with one or more service providers for parts of the ICT services. The key advantage of this outsourcing option is that it helps ensure that the organisation is accessing the best capabilities at the best price (as long as competition is encouraged by the selection process). However, this option requires extensive experience and sophisticated management of sourcing to function well. As a result, the management costs will be higher. The key disadvantage of this outsourcing option is that the service recipient organisation is managing multiple service providers and it is the most difficult sourcing option to manage. In addition, the service

recipient faces higher risks, as it is the risk owner regarded such problems, which span multiple service providers.

2.3.5 Joint Venture (Outsourcing)

In the joint-venture option, a new organisation is formed from the previous ones and it involves a wide variety of contract terms. An incentive-based contract, including shared goals, is often written and agreed by the service recipient to ensure service provider's performance. The aim of joint venture will be to improve the transferred service and more importantly, to leverage their relevant unique capabilities to develop new products and services that can get to the market and achieve change in a very short time. The value of the joint venture is often based on one partner's vertical or industry expertise and another partner's technical capabilities. Establishing a jointly owned company is often done from scratch, and the collaborating units usually do not have any shared history. Many joint-venture operations ultimately fail to meet expectations. The most common reasons are misalignment of objectives, lack of focus by the either partners, conflicting management interests, lack of exit planning. According to Schein (1999), one of the key disadvantages of this option is that the clash of the corporate culture is imminent, and one of the units is likely to feel angry, defensive, inferior, and threatened. Hence, such situation is known to have a negative impact on the business. The key advantage is that the service recipient using the joint-venture option with an experienced service provider will help to mitigate risks as the service recipient has limited experience in the ICT activities at the time of outsourcing.

Each of this models presented a different relationship balance between service recipient and service providers, which can be external providers (outsourcing) or internal providers (insourcing). In view of this, these relationship models will become critical in the deciding factor of the most viable options of sourcing strategies, as well as selecting providers in the analysis chapter for meeting strategic business objectives in PPS. Ultimately, these sourcing decisions should be guided by PPS's stance on risk, its needs to maintain close control of delivery, its desire for access to scale, its desire for best-in-class service capabilities and its willingness to take on the necessary investment in sourcing management.

2.4 Sourcing Strategies

Defining strategy and strategic decisions depend on a large number of factors. First, the vision and mission of the organisation plays a vital role, as well as the available resources and interests of the stakeholders (Johnson and Scholes, 1999). Defining a sourcing strategy also involves these factors and it is not a single decision or step. Rather, it is a continuous process to better align capabilities and services to evolving business goals (Wendy Currie, 1995). The purpose of a sourcing strategy is to achieve the optimal balance between internal and external capabilities, processes, activities and services to ensure the achievement of strategic business objectives with the lowest possible risk. Most companies recognise that they do not have all of the ICT capabilities they require to achieve their business objectives. They will increasingly look to fill the gap by using outsourced service providers for ICT-intensive business processes and services. Service recipient companies recognise that they have to form and manage relationships with outsourced service providers, and to mitigate sourcing risks in a multi-sourced environment.

2.4.1 Approach to Sourcing Strategies

In order for today's organisations to achieve business agility and growth, they should look beyond traditional outsourcing strategies and adopt a managed approach called multi-sourcing. Multi-sourcing approach in this context is the creation of a sourcing strategy that is tightly linked to the overall business and ICT strategies and constantly being monitored by an effective enterprise-wide governance system.

Sourcing management within the organisation should include a framework of common management and operating processes to provide visible and coherent interfaces among external and internal multiple service providers with internal delivery of key ICT service activities and functions. The organisation planning for outsourcing must answer the following five questions that define the managed multi-sourcing approach.

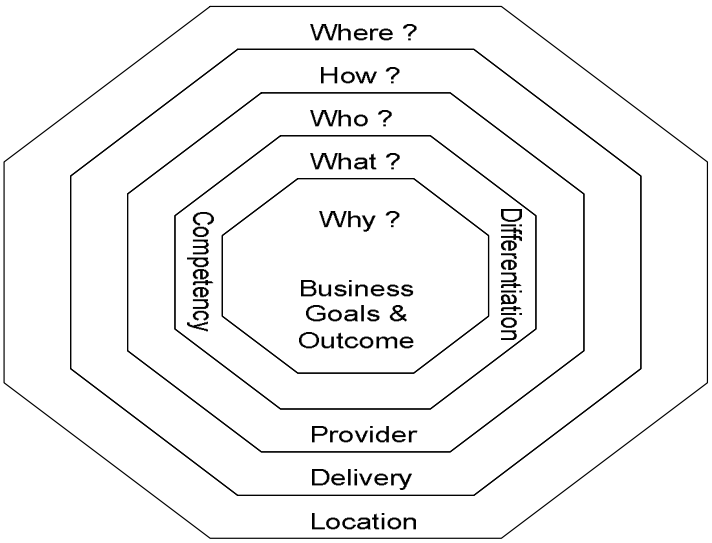

Figure 5 Questions that define Multi-sourcing Strategy

At the centre of the sourcing strategy in *Figure 5*, is the question "*Why*" refers to the business goals and the outcome the organisation needs to achieve. Organisations should always first know why they want to outsource an ICT service before they can decide what to source, who to do the work, and how and where it should be done. Each of these questions should be approached by applying the different sourcing strategy dimensions and analysis discussed in the later part of this section.

2.4.2 Business, ICT and Sourcing Strategies

An organisation's ICT and sourcing strategies must be derived directly from, and be connected to, the business strategy. As such, the sourcing management first need to analyse the distinct relationship between business, ICT and sourcing decision strategies to determine early on in the process the best sourcing, ICT and operational arrangement to achieve strategic business objectives. A business strategy defines a set of objectives, typically associated with the perceived value or threat on the market. Examples include how to obtain additional market share, how to better serve and retain customers, or how to stand out from competitors. During a revision of internal process or an economic downturn, the business strategy also looks into the ICT organisation to determine which internal values to exploit, such as process optimisation, quality improvement, organisation streamlining and cost reductions.

An ICT strategy examines how ICT can support the objectives set by the business strategy. A sourcing strategy is a set of plans, directives and decisions that define and integrate internal and external activities provided to fulfil an organisational business and ICT strategies. The activity may be a project, service or process in ICT or in the business as a whole. Internal staff, an external service provider or a partner may perform the activity.

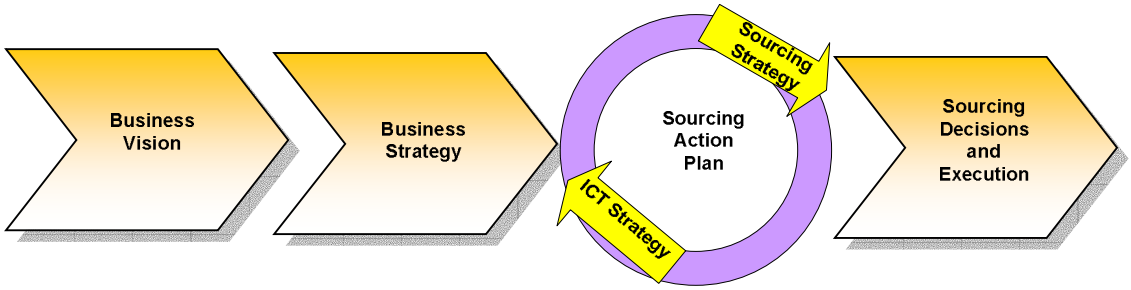

Figure 6 Business, ICT and Sourcing Strategies

Figure 6 shows how competitive business must evaluate the complex relationship of a sourcing among execution, ICT and sourcing decision to determine early on the best sourcing, ICT and operational arrangement to achieve business objectives.

2.4.3 Developing Sourcing Strategies

Once an organisation has identified its triggers and assessed itself, it can start developing an actionable sourcing strategy approach. The process of developing the sourcing strategy should include establishing organisation goals, evaluating internal capabilities, market-testing, deciding on sourcing model, and finally implementing the sourcing strategy. The following section describes each step of this process.

The starting elements of a sourcing strategy come from establishing organisation goals. The top management including Board of Directors, President and Vice President should define the short-term and mid-term strategic goals for the organisation. For example, the organisation's strategic goal is to achieve increased in profits of 30% for the next five years. These goals are achievable only if they are practical, with quantifiable objectives, such as cost reduction, service improvements, time-to-solution, flexibility and reactivity.

With clear direction of the strategic goals originating from the top management of the organisation, the next step is to evaluate internal capabilities for their strengths and weaknesses as they relate to the tentative goals. For ICT, the internal capabilities, *i.e.*, strategic core ICT functions, ICT processes and services, of traditional companies are universally considered inadequate to fulfil the challenge of the today's economy. The internal ICT organisations are perceived as related to back-office functions and adding little value to the business, although they are carrying out exactly the task they were asked to do. The organisation needs to achieve significant improvement in their internal capabilities if it has to meet its strategic objectives. The organisation should assess their internal capabilities by analysing the ICT functions, which are strategic/core (strengths) and ICT functions, which are non-strategic/non-core (weaknesses). Strategic functions are defined as services/functions that are core to an organisation's strategic goals and which must be carried out in-house for an organisation to fulfil its strategic goals. Such analysis helps the organisation in the evaluation and decisions of the actual ICT functions to be outsourced.

The organisation should assess external market capabilities by market-testing non-strategic ICT service as soon as possible. If external providers are absent in locally, the organisation should announce its willingness to outsource the ICT function, in order to encourage industry players to develop or emerge accordingly. The service can be scheduled for market-testing later when the availability of external service providers can be checked. Through market-testing approach, the organisation further assesses external market capabilities by identifying the skills, projects and services that are available or expected from external service providers that are sufficiently mature to offer the best value to the organisation at acceptable risk.

The next step for the organisation is to evaluate and decide on the most appropriate sourcing model (as described in section 2.3) to meet its major objectives. Organisations can also use a mixture of different internal and external providers and sourcing models to design the best sourcing strategy. In the early 90s, most organisations' concept of ICT outsourcing centred on full outsourcing. Today, most organisations take a multi-sourcing approach. Not all single sourcing models are suitable for every stages of an organisation's strategy or market maturity. Each has its strengths and weaknesses. Timing is critical for initiatives and time to market,

because some sourcing models are unstable or not sustainable and must combine as they evolve as part of the overall strategy.

Once the organisation approves the sourcing strategy, the journey to achieve the successful outcome gets started. In this step, the sourcing management should ask this question is: "What are the organisational changes to govern ICT sourcing effectively?" According to Ronan McIvor (2005), the sourcing framework requires the retention of control through governance and service management. Depending on the scale and scope of the sourcing strategy and the scenario to be implemented, the impact to the organisation can be significant. The changes in the sourcing governance and sourcing management are possible to occur internally when there is a large transition of responsibility to different parties and in the initial move towards a new sourcing strategy. When developing a sourcing strategy, or revisiting it as conditions change, it is critical that the sourcing manager of the organisation should start evaluating the sourcing governance and management requirements for the execution phases when the sourcing strategy is developed. In addition, the sourcing manager should consider the implications on the resources and investments required to deliver a successful sourcing outcome. Organisations often wait until it is too late to plan the governance and ongoing management. Once the business case is approved and execution begins, it becomes difficult to go back and request resources to design and implement the sourcing governance framework, and manage the demand and supply requirements and relationships.

Sourcing governance is about the "deciding", while sourcing management is about the "doing". Although the two principles co-exist, they have different roles in sourcing:

Sourcing governance, which is a set of processes that assigns rights and responsibilities for decisions regarding internally and externally provided resources and services, with the objective of ensuring service coordination and achieving business objectives, according to the organisation's sourcing principles. It also includes any managing change, hiring and re-skilling ICT functions or undertaking activities needed to enhance or develop the governance. Why is sourcing governance important? Without sourcing governance, many organisations will be left with a chaotic blend of service relationship and contracts. As a result, organisations with lack of sourcing systems of controls are likely to see a decrease in business efficiency, effectiveness and growth. On the other hand, good sourcing governance enables the organisation to keep both

sourcing strategies and business strategies seamlessly together for faster and better decision-making to transform into high-performance service delivery operations. Conversely, effective sourcing governance establishes both the common and the unique approaches for managing varying mix of internal and external service providers that characterises multi-sourcing. Hence, effective sourcing governance is crucial to multi-sourcing.

Sourcing management is the sum of contract, performance (or operations) and relationship management, guided by the sourcing strategy and sourcing governance practices. Managing in a multi-sourced environment is different from managing internal service delivery. In multi-sourcing, there is greater complexity due to the number of parties involved, the interdependence of service providers, and the relationships required to ensure success.

There are different opinions among authors on what and how much an organisation can or should outsource. Kelly and John (2006) implied that theoretically an organisation could outsource everything. The only thing that needed in-house is something to keep the parts together and maintain adequate competence to purchase the different resources needed. Earl (1996) pinpointed the importance of keeping procurement competence in the organisation: *"Whatever outsources option a company adopts, there is still a need for capable IT executives in-house who know how to manage IT operations so that they can be informed buyers and demanding customers"*. If the organisation selects outsourcing, the managers have to know how to manage contracts and relationships with external partners. Lacity, et al. (1996) have a strategic perspective on outsourcing and suggest a selective approach to ICT outsourcing. In order to be successful in outsourcing, careful considerations are required, of which ICT activities to be outsourced and the consequences it will have on the organisation has to be taken. Successful sourcing begins with an analysis of the business contribution of various ICT functions. An analysis of the organisation's core competency is necessary. The guiding parameters are the business value of a technology or application and the operational performance of the associated service. Conventional wisdom holds that commodity ICT functions (*e.g.*, Human Resource Systems such as Payroll) is traditionally more suited for outsourcing, while strategic functions (*e.g.*, online reservation systems) retained in-house. Hence, it is important to identify which ICT activities are "commodities" and which are "strategic". This differs for different organisations. Thus, each organisation must analyse the

delineation of ICT activities in its own business context, and arrive to a decision if it is strategic or commodity.

Lacity et al. (1996) presented an analytical framework to help organisations in the sourcing decisions. The framework suggested for example, that the outsourcing of ICT functions central to business strategy might be a dangerous diversion, especially if ICT operations are already efficient. Therefore, in this situation, insourcing is preferred. However, if the business value is high but operational performance is weak, then market-testing (or bench-marking) is a good option, at least the organisation can use result to determine what performance improvement might be possible by either internal or external sourcing.

2.4.3.1 Best Sourcing Strategy

Best sourcing is an outsourcing strategy designed to assure the most economic delivery of shared services through market-testing *i.e.*, comparing in-house costs with market alternatives (Bergeron Bryan, 2003). It introduces cost comparison into the delivery of government services so that government can select the service channel and service provider that offer the best value for money.

Under best sourcing strategy, the business units in the government agencies are required to market-test either their strategic or non-strategic services. If the private sector can provide a service more economically than the in-house unit can, the private sector will be engaged to do so. Best sourcing can be “outsourcing” to a private sector organisation contracted to deliver the service, or to provide the workers to deliver the service, or to enter into Design-Build-Own-Operate, Design-Build-Operate-Transfer, or other partnership arrangements with the government. However, the service may be most economically delivered by the government agency or other public agencies (*i.e.*, alternative in-service providers), in which case it becomes “in-sourcing” or “cross-sourcing. The benefits of the Best Sourcing Strategy are to achieve greater value for money for the government; focus government resources on strategic government functions; and to improve flexibility and scalability of public services.

2.4.3.2 Shared Services Strategy

In any outsourcing discussions, this question always arises: Why not outsource ICT activities that are being collected and save the costs associated with running the shared service operation?

Shared services and outsourced services are other sides of the same analytical coin. Both shared services and outsourcing are logical by-products of what is called a process orientation within an organisation. This process orientation stresses end-to-end business process rather than corporate functions. As such, shared services and outsourcing are process oriented, applying lean consumption strategies, with the process design geared toward cost reduction and deliver exceptional customer performance in service level. Johansson, H.J., et al, (1993) outlined the "process-orientation family" of management concepts. This family contains Just-In-Time (JIT) manufacturing, Total Quality Management (TQM), and Business Process Reengineering (BPR). Johansson, H.J., et al (1993) argued that: "*BPR pushes the JIT and TQM philosophies both upstream and downstream to the customer and the supplier in order to magnify their impact and take them outside the company's four walls, in order either to control the supply chain more effectively or to reach the market more effectively*".

Since the 1990s, the process-orientation family has been expanded to include the concepts of supply-chain management and value-chain management. In this process-orientation mindset, an organisation has a small list of core business processes, which are strategic keys to its success in the marketplace. These core processes are drawn from the list of potential core processes. The processes from the list that are not core to the organisational success are seen as secondary. Regardless of which processes are core, which are secondary, certain processes are always supporting and the activities that fall within them. These supporting processes are the processes that are ripe for consolidating into shared services operation or outsourcing. After the activities within the support processes that are collected have been determined, the decision of whether to collect them in a shared service operation is based on the three key considerations:

1. What is the strategic relevance of the service to the organisation?

2. What is the current service performance level within the organisation?

3. What will the future required service performance level be?

2.5 Outsourcing Risks

While outsourcing can bring benefits to the organisation, there are also risks associated to outsourcing, both for the customer and the service provider. Earl (1996) stated that significant risks are present at each stage of the outsourcing process - from planning and management at a strategic level, through to negotiating contracts, selecting service providers, handling the implementation, and managing the relationship in the long term. This section reviews literatures on the risks perceived in ICT outsourcing, from the customer's point of view, as well as from the service provider's point of view.

2.5.1 Customer Risks

When ICT service is outsourced, the customer loses their understanding of the service overtime. If outsourcing is done in an incorrect way and the organisation has not carefully considered what to outsource, there is a risk of losing core competency. For example, if the organisation (*i.e.*, service recipient) decides to let the external service provider be responsible for development, operation, and management of a system that is crucial to the business, the service provider will soon be the only one with actual knowledge about the system. This is not a problem if the relationship between the service provider and customer is satisfactory to everyone. On the other hand, if the outsourcing relationship does not work satisfactorily for the customer, there is a risk that the critical skills, competences and knowledge abruptly are gone. For example, if the external service provider decides to terminate and leave the ICT service to the organisation. This may also have impact on the innovative capacity of the organisation. According to Joel (1992), outsourcing allows the organisation to receive innovative ideas about their business from intelligent professional service provider. As innovation is critical to competitive advantage, an organisation often wants to maintain innovative capacity in ICT in the end because there will be new ways of providing ICT services and of exploiting ICT for the business. In essence, a good outsourcing relationship means achieving a higher delivery of innovative capacity for the organisation. Hence, the organisation should spend greater amount of time and efforts to maintain and manage a long duration of intimate collaboration with the external service provider.

If the organisation has outsourced its ICT services and downsized as well, its ability to innovate may be impaired (Earl, 1996). High focus on cutting costs can be a risk. The future cost savings may not be as great as first thought in an outsourcing deal. There can be hidden costs. Earl, 1996 implies that organisations usually underestimate the setup costs (including redeployment costs, relocation costs, and longer-than-expected handoff or parallel running costs). It is also common to misjudge the management costs in outsourcing ICT. According to Yakhlef (1997), it is also common for the organisation to award the contract mistakenly to an external service provider who seems to provide lower price than those of others. For example, the external service provider may quote a very low price, which covers only the minimum specifications, and change orders will be prevalent during transition process, thus making overall outsourcing more costly. Hence, it is important to investigate the cost structure of the service provider and find out why its prices are lower than those of others are. Likewise, it is essential that the organisation award the contract to the service provider who can provide the best value for money for the organisation. Another risk is that the organisation may become too dependent on its external service provider. The external service provider may have different goals and priorities. Such risks can be reduced by using several service providers and maintain internal expertise.

A report by Deloitte (2008) cites that concerns to the customer associated with outsourcing is the potential eroding of brands, intellectual property, and other intangible assets due to piracy, security breaches, and information theft. As organisations' use of outsourcing continues to grow, there is a high degree of risk in the theft for customer and organisation information and the organisation relies on their service provider to protect. It is common to see service providers do not have adequate capabilities and experience to incorporate tighter checks and balances to secure information privacy and prevent fraud and theft. As such, it is vital that the organisation seeks to preserve and protect the security and confidentiality of customer information in the custody or possession of service providers. The organisation should be proactive in specifying requirements for information security and confidentiality in the outsourcing agreement. In turn, the organisation needs to ensure that the service provider has adequate resources, capabilities and experience to implement effective security policies, procedures and controls.

2.5.2 Service Provider Risks

The service provider faces risks in an outsourcing situation. The major risks are listed below.

Economic risks. The service provider faces some economic risks in outsourcing. For example: being caught up in a lengthy pre-contract during which time the service provider will need to put in great deal of effort for which it does not get paid, the risk of losing a contract, unable to deliver expected quality levels and on-time service to customer, and misjudged future costs and revenues.

Personnel risks. When some of the personnel are transferred from the customer organisation to the service provider organisation, it has been reported that the service provider faces issues related to low morale and sluggish motivation among those transferred (Willcocks and Fitzgerald, 1996). These ICT professionals are likely to feel offended because they think that they are not good enough to belong to the customer organisation. Likewise, those personnel who are transferred to the service provider may suffer various changes that can include their seniority level or any other favourable condition to the need to adapt to a new corporate culture or conditions that can take away pleasure in their work.

Organisational risks. An ICT outsourcing situation can include transferring of former customer employees to the new service provider organisation or departments. As such, there is a risk for culture clash when the organisation and service provider have different organisational culture and values.

2.5.3 Managing Outsourcing Risks

Different sourcing models, decisions and external service providers may present different levels of outsourcing risk while trying to achieve the same business objectives. Outsourcing risks either reduced or mitigated by carefully selecting a well-thought-out sourcing strategy that includes careful risk analysis. It is therefore vital that the organisation adopts sound and responsive risk management approaches for effective oversight, due diligence and management of risks arising from outsourcing prior to entering into contract, and on an ongoing basis. Risk management is a strategic and functional approach ideally suited to protect an organisation in an outsourcing decision (Yuwei, 2007). Risk Management embraces the whole spectrum of activities and measures associated with the identification, evaluation and handling of risks. The

aim of risk management is not to avoid all potential risks, but to comprehensively identify and assess risks and risk situations in order to be able to manage them in an efficient, well-informed manner. A controlled approach to risks will facilitate exploitation of existing opportunities and increase success.

In terms of managing the outsourcing risks, it is vital for the customer organisation to use some form of risk assessment and risk management as part of the planning cycle of the outsourcing contract. It must also be participative and iterative, meaning that all participations, including top management in the undertaking of the risk management process, which involves the following:

Risk identification involves looking for sources of risks early in the lifecycle of the outsourcing. It is vital for the organisation to identify each risk, specify within which business area the risk lies, and at what organisational level. This helps in both clarifying the risk and developing actions to control and avoid the risk.

Risk assessment evaluates potential impact of the identified risks on the outsourcing program and project. The impact can be in terms of missed milestones, the need for rework, the need for redeveloping software programming and the level of project acceptance after it is completed.

Risk control and mitigation involves developing a number of actions to be taken to mitigate each of the identified risks. Risk control and mitigation encompasses all measures and methods to influence risks through reducing the impact on time and cost. Risk control must be constantly monitored and reported, and to support the ongoing identification of risks and the control of risk management mechanisms.

Risk avoidance is to avoid some risks during the handling of the outsourcing lifecycle. The project management will control the costs during the whole outsourcing project to avoid the risk of over-spending. For example, in order to avoid over-spending in the outsourcing project, it is possible to delay non-critical activities, which means to apply the technique of smoothing as in the people resource scheduling.

3 B.E.S.T. Analysis

This chapter covers the analysis on the experience from making ICT sourcing decision that is essential for PPS. It discussed the key aspects of ICT sourcing decision by analysing the following factors represented by B.E.S.T. (see *Figure 7*) that helped PPS to make best sourcing decision and arrive at a long-term ICT sourcing strategy.

B – Business Analysis

E – Economic Analysis

S – Shared-Services Analysis

T – Technical Analysis

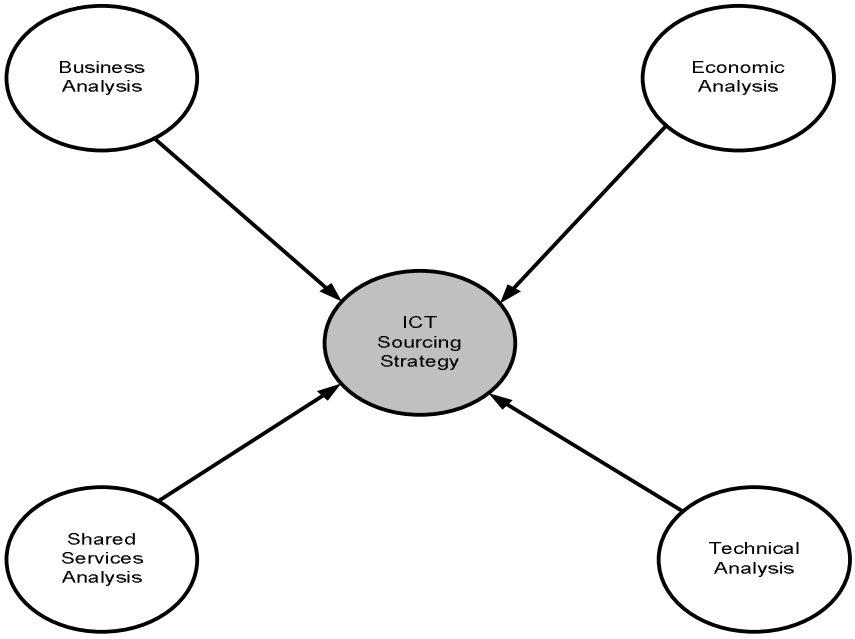

Figure 7 ICT Sourcing Decision using B.E.S.T Analysis Approach

3.1 Business Analysis

Based on business analysis for ICT sourcing, how did PPS consider which ICT activities to outsource? PPS treated ICT as a portfolio by analysing which ICT activities contribute to business goals and ICT operational performance in order to select which ICT activities to

outsource and which to retain in-house. Hence, PPS ensured successful sourcing by beginning with an analysis of the business contribution of various ICT activities. Using Lacity et al. (1996)'s business factors matrix (see *Figure 8*), PPS succeeded in their selection of what can be outsourced to advantageous use by mapping ICT activity's contribution to business positioning and business operations.

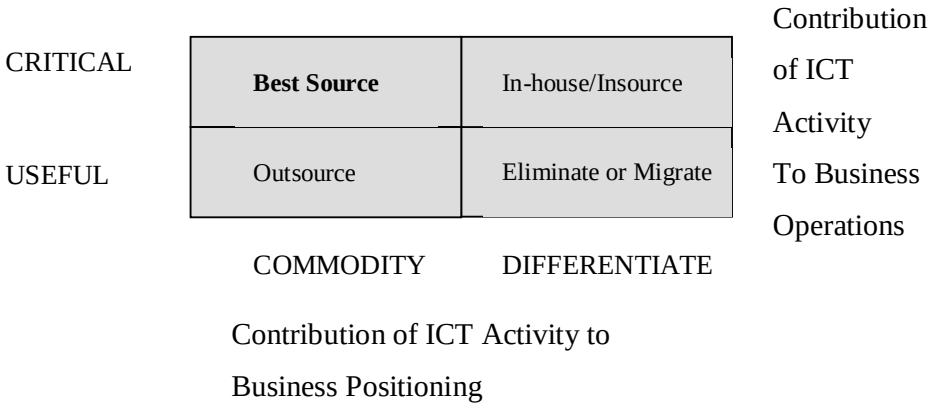

Figure 8 Business Factors Matrix

ICT activities can be found in all parts of the business matrix depending on the business value and ICT operational performance. PPS has a heterogeneous ICT infrastructure and was far from being an optimally setup environment. The internal users across all business units of PPS valued their ICT operations with the same importance as the organisation. PPS did not have the competence needed in-house, and the service performance is not satisfactory. Though outsourcing option is the answer, the top management in PPS used a best sourcing tool to ensure their best sourcing decision is the right one and is in the best interest of their governmental business goals - now and in the future. PPS extracted the in-house ICT operations, which included IT support services, IT procurement and inventory management, from the organisation, and benchmarked (*i.e.*, market-test) against external suppliers. During the benchmarking, it discovered that standard solutions were available in the market and that several companies could supply these types of services. In the end, of the four categories of potential outsourcing candidates listed in the business factors matrix , the 'Critical Commodities' emerged as best sourcing policy to be adopted by PPS. PPS viewed its ICT

systems that supported its governmental business as ‘critical commodities’. In addition, PPS developed enterprise-wide ICT standards and policies to streamline and consolidate organisational-wide ICT systems.

Broadbent and Weill (1997) cited that with a thorough understanding of an organisation’s business strategic context, PPS management had identified business and IT maxims that can help them determine which ICT infrastructure capabilities are necessary to achieve their business goals. PPS had studied that a successfully created business-driven ICT infrastructure was to create common information technology architecture and standards, which would lead to an efficient and effective use of IT resources and reduction in cost. The IT industry generally refers to the development of a common IT architecture as Enterprise Architecture (EA). The PPS definition of EA framework is as follows:

Enterprise Architecture (EA) refers to development of common IT systems, standards, and processes in place to support the business needs of the organisation.

Using the EA framework helped PPS achieve more standardised ICT activities that are ‘critical-commodity’ for the organisation – the provision of ICT shared services for PPS in the areas of standardised hardware, software, operational and maintenance services – is commonly outsourced by businesses because many high-quality service providers are available. Though PPS does not have its rivals, the development, operational and supporting activities for the ICT systems must respond to the mandated ICT requirements of the organisation as well as respond to the changes in the Singapore Government policies. Because of the risks involved for the business, such decision would be based on clear evidence that external service provider could meet stringent requirements for quality and service-level requirements as well as offer a competitive price. Therefore, the best sourcing solution for PPS is to ‘best source’, not ‘lowest price or cheapest source’. An external service provider that can deliver best ICT activities at a lower cost and in a more efficient way will meet the organisational business goals.

3.2 Economic Analysis

For the economic analysis of ICT sourcing options, PPS needed to compare service providers' offerings with in-house capabilities. PPS adopted Lacity et al (1996)'s economic factors matrix (see *Figure 9*), which incorporated two economic considerations – in-house economies of scale and adoption of efficient practices into a matrix to aid its top management in the economic analysis of the ICT sourcing decision.

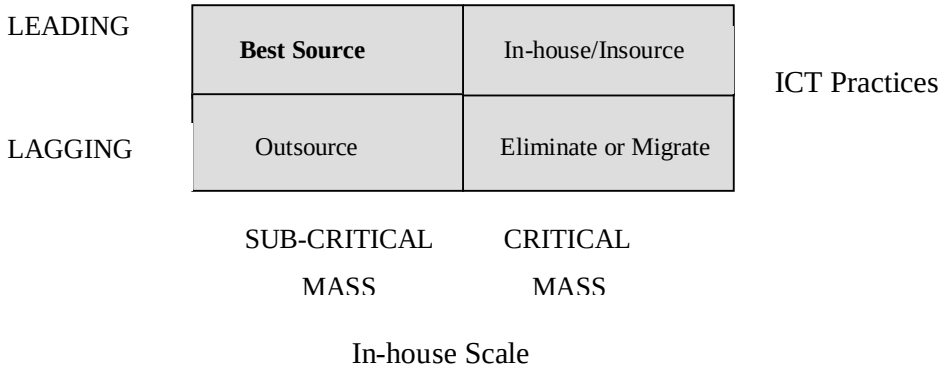

Figure 9 Economic Factors Matrix

Lacity et al. (1996) cited that in the most desirable economical scenario, if the in-house ICT has reached economies of scale and has adopted efficient practices, it is unlikely that service providers would be able to reduce cost further because service providers have to earn a further 15%-20% profit, whereas in-house ICT only needed to cover operational costs. As such, it is recommended that in-house ICT not to be outsourced.

Whereas in PPS case, the in-house ICT has only reached sub-critical mass and it has adopted efficient ICT practices, which adhered closely to the Singapore Government ICT best practices. As such, PPS felt that there was a strong economic justification to recommend best sourcing in this case, *i.e.*, to test the market to determine the economic validity of best sourcing.

Under best sourcing, PPS called for a Request for Proposal (RFP) to test the market and selected the most [1]Value for Money external service provider. Cost comparison provided a more pragmatic and accurate determination of the costs involved in an outsourcing decision. It also formed an important part of the economic evaluation as to whether to outsource the ICT functions in PPS.

The cost comparison (see appendix B) was computed by comparing the difference between the costs of performing the ICT functions through the selected external vendor (referred to as 'contract performance') and the in-house costs of ICT operations. Using current and past years' expenditure patterns, it projected that it would cost PPS S$33 million to manage the ICT operations in-house over the next 5 years. This worked out to an average of S$6.6 million per year (see table 1 in appendix B). The cost savings from best sourcing expressed in its Present Value (PV). Through cost comparison, PPS was able to justify that the best sourcing project would deliver a total cost saving of about S$8.3million over 5 years, *i.e.*, its Net Present Value (NPV) is positive (see table 3 in appendix B). Hence, PPS accepted the project to outsource the ICT functions to the best service provider.

3.3 Shared Services Analysis

The business units across PPS became increasingly dissatisfied with the returns obtained from their investments in ICT, costs were rising too rapidly and technology was changing rapidly such that it could hardly keep with the latest developments to match its capabilities and skills development for the staff. The current performance level of ICT services based on the annual internal customer satisfaction ratings is less than 16%.

To overcome such issues, PPS decided upon the shared services route by collecting the various in-house ICT activities together in a shared service environment. The focus of this analysis was that PPS took a managed approach in determining which ICT activities/operations that were

[1] Value for Money does not simply refer to price alone. It also includes quality, timeliness, service levels and other intangible performance measures

candidates for potential coalescing into a Shared Service Centre (SSC). The list of SSC possibilities for ICT activities/operations within support processes were IT procurement, inventory management and IT support services, which included IT infrastructure management, maintenance and support.

After the activities within the support processes that are collected have been determined, the decision of whether to collect them in a shared service operation is based on the three key considerations mentioned in Section 2.4.3.2 (Shared Services Strategy).

PPS created a SSC as part of the overall business strategy to achieve a higher level of tangible results. One of the key tangible benefits was the consolidation of common ICT activities across all of its 160 business units and the standardisation process helped the SSC work off the same processes and standard ICT. The remaining 74 business units that previously did not have ICT support (they found the in-house ICT support cost high and its service performance level unsatisfactory) now all participated in the SSC operation. This created economies of scale and improved span of control and thus help PPS to realise cost reductions and operational efficiencies more easily through critical mass.

The SSC could gain economic benefits from specialisation. The SSC could specialise in providing critical ICT services in the relationships with customers. After bearing large system development costs, the SSC would face relatively small incremental costs as the new setup made use of the standardised ICT systems, thus obtaining substantial economies of scale. Furthermore, the technological and organisational resources and expertise acquired during the development and operation of a Standard Operating ICT system was successfully transferable to other systems, resulting in economies of scope.

An economy of scope came from the ability to derive greater value from one large external entity as compared to a collection of smaller internal ones. According to Thomas and Tom (2006), economy of scope resulted from being able to perform many ICT activities to support strategic business functions through the single SSC rather than in many parts of one or more ICT activities. As such, SSC delivered in overall economy of scope for the PPS through reduction in risk, increased in service performance and reliability.

Shared services have large potential for a variety of other critical applications. Shared use could make ICT infrastructure management and application exploitation to be used more efficiently. Sharing of ICT services introduced new opportunities, especially large governmental organisations like PPS, to outsource non-core ICT activities and to utilise capacity of their ICT infrastructures more efficiently.

PPS found that these common ICT activities/operations were ripe for consolidation into a shared service operation. The ICT SSC in PPS was created by taking all these non-strategic ICT activities and putting them together. Business units were seen as partners to the shared service operations. Therefore, it was important that the SSC operation in PPS be run by the Customer Support Team to support the business unit partners. The top management at PPS created the metrics of service performance and tracked them closely. A powerful tactical approach enabled the business in PPS to achieve its strategic goals.

During the study, PPS also analysed the different SSC arrangements, where the organisation started to develop a global SSC to be both run and managed entirely in-house or outsource to service provider. However, after taking into account the speed at which the in-house SSC needed to work and the consolidation of ICT work necessary over many of its 160 individual business units across the organisation, the outsourced SSC was the better option to deliver SSC to PPS over a shorter period. Why is this so? Because of this complexity of consolidating much of the supporting ICT activities of many business units into the shared service operation, the provider-own SSC comes with greater resources to handle the migration of processes, activities and people into a centralised SSC more quickly than in the in-house SSC. This provides for economies of scale and standardisation of process and experiences as SSC pertain to these staff in PPS. The Shared Services Program aims to create high-performance work environments in which staff in PPS can learn, build skills and share resources, responsibilities and information to be workers that are even more proficient. Ultimately, the extent to which staff can work effectively related closely to their ability to collaborate with and learn from each other.

Based on the analysis discussed earlier in this chapter, the top management recognised the need to purse Shared Services Program and decided to outsource to a best source provider to run shared services for the PPS organisation (see *Figure 10*). The main benefit of such arrangement was to avoid duplication of ICT services and to establish a single Shared Services Centre

(SSC). Shared services are *building* and Best Sourcing is *competing* sourcing action categories to meet the PPS's sourcing strategies. As discussed earlier in Section 2.4.3.2, the adoption of the process-orientation approach and maximising the power of partnership between the best sourcing and shared services options would help PPS to provide improved service performance at lower cost.

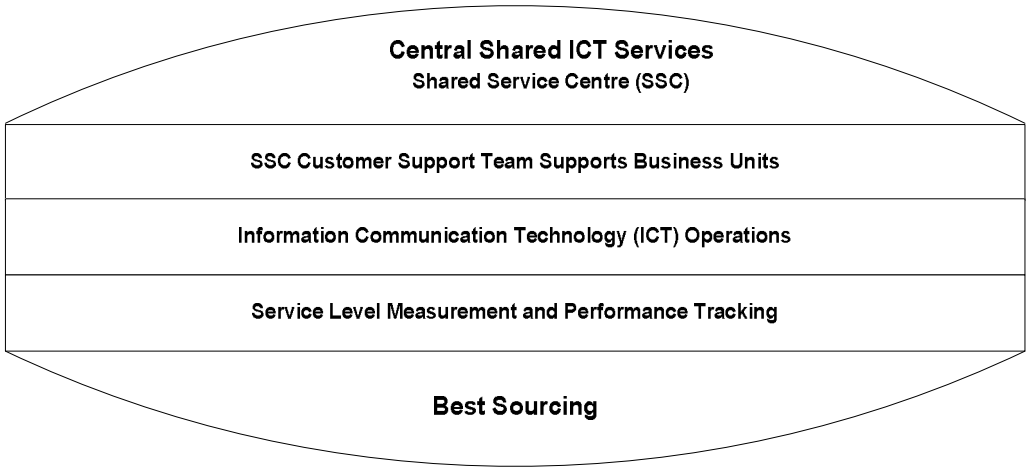

Figure 10 PPS's Sourcing Strategies - Partnership between Best Sourcing and SSC

3.4 Technical Analysis

The concept of shared services applied to areas such as ICT, human resources, legal, and finance. One can argue that ICT is the natural place to implement shared services first, but many companies have to break apart entrenched, centralised ICT organisations in the past. Shared services mandates some level of process change in order to take non-value-added activities out of the business unit and consolidate them into an ICT shared service operation, where they become value-added activities and part of the ICT shared service operation's core business processes. Shared services must capitalise on and match the organisational enabling technology. Hence, the creation of ICT shared services made easier in an atmosphere in which PPS had successfully installed an ERP system, such as the SAP ERP.

The organisation's technological maturity should not be the sole consideration in determining the shared service operation. One of the major influencing factors is using Enterprise Architecture framework to establish "Enterprise-Wide" standard-based common operating environment.

Such standard-based common operating environment helps PPS to achieve the following benefits:

a. To support interoperability and encourage resource sharing;

b. To achieve operational efficiency through streamlining ICT resources requirements and reducing incompatibilities and costs;

c. Aggregation of ICT demand to achieve cost savings for the organisation as a whole; and

d. Elimination of routine operational tasks so that employee could focus on strategic activities.

The shared service organisation can be the focus for implementing new value-added activities for core business services using innovative technology to reduce cost and enhance operational efficiency.

For technical considerations, PPS selected an appropriate outsourcing option (see *Figure 11*) by analysing the two important dimensions (*i.e.*, diversification and unification) of the operating models at the enterprise levels, which adopted from Jeanne W. Ross and Cynthia M. Beath (2005).

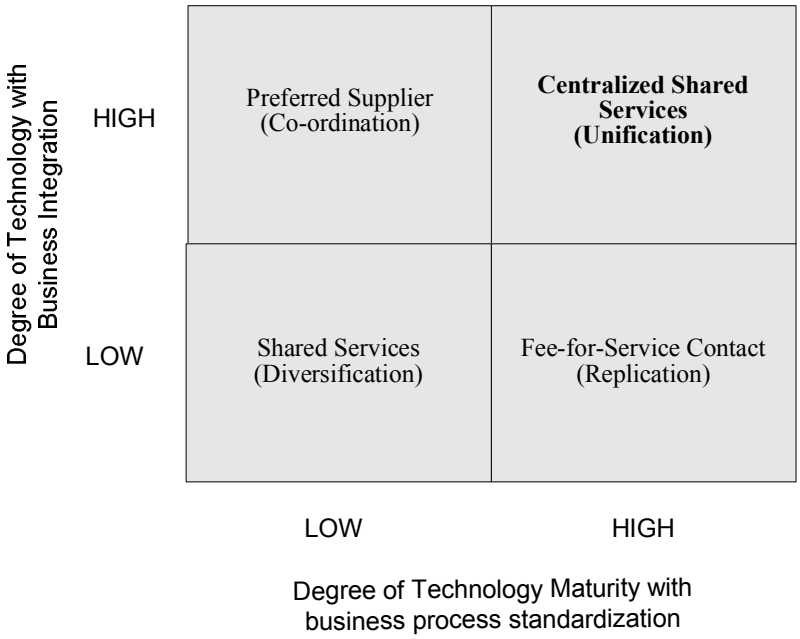

Figure 11 Technical Factors Matrix

Over the years, diversification is applied to business units across the organisation. PPS developed its individual ICT projects in response to business units' needs to offer different services to the same customers. Because of funding methods, legal barriers, technology limitations, and turf concerns, these ICT projects were usually developed without regard for the needs or operations of other business units. As a result, each business units developed and "owned" its own ICT functions as well as a significant portion of the technology resources needed to operate those systems. Though sharing of ICT services in the diversification operating model would realise economies of scale for PPS, it was not a common practice and would face greater resistance to adopt such model among the business units' stakeholders.

Conversely, the bulk of the employee time and expenses in PPS were devoted to supporting the current ICT infrastructure. The ICT activities are supported by "technically mature" infrastructure generally consisting of large-scale mission-critical ICT infrastructure, such as, mainframe computers, data networks, servers, desktop PCs and storage devices. In PPS also expended considerable resources to maintain and support the desktop or other mobile

computing environments. As a result, this leaves little room for changes to business processes that directly affect the constituent.

Lacity et al (1999) described that an ICT activity as having high technology maturity when it represented the well-established use of familiar technology. The large-scale mission-critical ICT infrastructure, such as mainframe computers, data networks, servers, desktop PCs and storage devices and ICT procurement, inventory management and ICT support services were highly mature activities for PPS. With standardised common ICT infrastructure and ICT common services, ITSD in PPS could reduce the cost of operating and supporting its infrastructure, and thereby shifted resources into constituent focused applications and revising business processes. As such, the business units' stakeholders had conquered the learning curve and reached a point where their requirements were well specified and reasonably stable. When the business units were tightly integrated around a standardised common ICT processes, the overall organisational in PPS would benefit from the unification model.

With the declared operating model, the strong central management in PPS must define the need for cooperation and must provide direction for building a foundation for execution. As a result, the top management in PPS recommended a number of strategies to drive all business units in adopting the unification model with centralised sharing of ICT resources over the long term. Among those recommendations were the creations of incentives for ICT resources sharing, management training to encourage company-wide thinking at the business unit level, inter-business units' cooperation and the consolidation of ICT resources to maximise operational efficiencies.

PPS would provide the centralised ICT services to support all business units through the SSC. Hence, PPS decided to adopt the unification operating model and selected the centralised shared ICT services through best sourced service provider, which would best suit the organisation.

One of the key technical findings in this research was that similar advantages adopted from unification operating model were potentially applicable to the desktop and personal computing environment. Using standardised common hardware and software resulted in overall cost

reduction for ICT services and training costs for supporting personnel and users across organisation-wide business units in PPS.

Standardised common ICT infrastructure and services offered PPS the potential of reducing ICT resource redundancy, increasing security, and improving services. To realise these potential benefits, the standardised common ICT infrastructure and services must be easily and securely accessible to all users, and be highly reliable. In addition, the best-sourced shared ICT service provider, FutureTek, supporting the infrastructure and providing these services must be customer-oriented and willing to meet service levels specified by PPS.

4 Best Sourcing and Shared Services – The "New" Approaches to Operations

Operations strategy is less concerned with individual processes and more with the total transformation process (Nigel and Michael, 2002). In this case, the operations strategy has gap in the strategic fits of organisational goals with operation resources. To close this gap, PPS needs to formulate new operational strategies such as best sourcing and sharing services to transform their existing processes. To improve both its cost and operational efficiency, shared services strategy is recommended to streamline and standardise IT supply-chain and resource management processes. To enable PPS to deliver shared services more cheaply and efficiently, it adopted a different outsourcing model, which is known as "Best Sourcing". PPS designed and implemented a best sourcing approach of the computer management process.

Through Best Sourcing approach, the existing IT supply-chain and resource management processes would be outsourced. A centralised service provider in PPS would provide organisational-wide information sharing of IT supply-chain and resource management services. How is it done? The advent of the Internet has opened up new opportunities for supply-chain design. The service provider from Best Sourcing would redesign PPS's IT supply-chains and resource management system and develop an integrated Enterprise Resource Planning (ERP) system that enabled both supplier and employee from business units to buy computer products and services through standardised and consolidated processes across business units.

4.1 Market-Testing

Best Sourcing extends the scope of market-testing to existing ICT services currently undertaken in-house, and not just new services. Best Sourcing is designed to assure the most economical delivery of ICT services through market-testing the delivery of ICT services, so that PPS can select the most economic service provider. Even if the service is outsourced, PPS, as the public agency concerned, will remain accountable, and will ensure that service quality to the public is not affected before, during or after the market-testing. This is to maintain public trust that PPS remains committed to delivering quality services for the public.

A project team was formed to study the IT industry's best practices and capabilities. The project team visited local major players in the industry to understand their work processes and to obtain indicative costs. The finding used as justification to the PPS management that the industry can handle most of the current IT supply-chain and support services jobs at competitive prices. Most of the outsourced IT service providers have the facilities and resources to meet the desired performance parameters. Several considerations had to be made in determining the correct level of outsourcing - the terms of contract, the performance criteria and liquidity damages clauses. To safeguard PPS's interests, site-visits and detailed tender clarifications had to be conducted.

Several proposals were received and the best sourced contract was awarded to FututeTek Pte Ltd , the world leading ICT service provider, on 04 December 2006 at a cost of S$4,163,680 which is about 18% lower than current in-house ICT expenditure (see appendix B) and yet very much larger in scope as compared to existing small-scale ICT outsourced works.

4.2 Centralised Shared Services

The centralised shared services approach enabled PPS to achieve cost effectiveness and operational efficiencies across their multiple business units. The delivery by shared services provider focused on specific activities within the following IT major functions:

4.2.1 Procurement

As the number of repeated purchase of similar computers, maintenance and support services were high and ERP was put in place to enable PPS to transact directly with its suppliers to the greatest extent possible. The shared service providers helped to standardise and optimise the financial management, purchasing and related system processes that support procurement functions across multiple business units in PPS.

4.2.2 Inventory Management

In a shared services environment, the inventory management of computers and systems was transferred to the service provider. There was opportunity for the business units within PPS to

take a leading role to further reduce duplication and to maximise the use of existing IT computer and systems.

4.2.3 IT Support Services

The IT support services including maintenance and operational support were effectively delivered by shared services. Why is this so? This is because highly skilled IT professionals supported consolidated IT system services. The shared services providers assessed the rationalisation and consolidation of the number, size and location of computers, operating environment and integration with IT supply-chain systems, (IBM Center for the Business of Government, October 2004).

4.3 Redesigning Supply-chain and Resource Management

The concept of shared services addressed the need to integrate supply-chain and resource management. All data and processes of independent supply-chain and resource management integrated into a single unified system known as ERP. ERP enabled suppliers in the IT supply-chain and resource management to play an integral role in the IT's ability to meet the service level, such as low-cost operation, consistent quality and on-time delivery. A service provider's supply-chain was designed so that the right equipment, personnel and resources were available to perform the service. The existing silo supply-chain processes were redesigned as follows:

a. Coordinated IT requirements across business units with opportunities existed because of collaboration effort;

b. Completed the spend analysis of their procurement *i.e.,* find out how much was spent on what and for whom. This allowed both the team and business unit manager to examine whether they could aggregate similar items to get better terms and lower procurement cost, or to be bought with other business units to increase buying power. Such buying process executes the actual procurement of the product and service from the supplier;

c. Sought support from senior management to get business unit managers to start working on aggregating demand at least at the business-unit cluster level, or even collaborating across business units;

d. Created an automated system in ERP to keep track of inventories and inform buyers in business units when replenishment orders are required. Inventory information is automatically scanned directly into the ERP database using RFID tags. This is to improve accurate information and eliminate excessive inventories, stock-out and misguided resource plans;

e. Supply-chain management is relatively easy when it is handling steady state demands but the real test came with handling huge seasonal fluctuations. Ramping up and down with handling IT order fulfilment during seasonal demands spikes by taking a hard look at data and planning on a continuous basis. The new electronic system in ERP enabled planning ahead to predict demand, staffing appropriately to handle spikes, and ensuring proper collection of data for forecasting, are all key components of supply-chain excellence that are vital for business units that experience seasonal fluctuations;

f. Electronic information exchange process in ERP facilitated the exchange of pertinent operating information, such as purchasing, forecasts, schedules in ordering and maintenance, and inventory levels between multiple business units of the organisation and its supplier;

g. Shortened long-lead time by switching from paper-based to electronic ordering fulfilment in ERP. However, additional costs are offset from the savings obtained from buying of papers and shorter lead-time.

To achieve a balance between efficient and responsive supply-chain, the most important step to take was to create a well-structured data warehouse in which users could store, format, and manipulate supply and demand data. Because each business units could experience fluctuations, a centralised database stores historical data on resources usage, including IT staff, computer equipment and inventory on computer parts. Computers in each business units

automatically tabulated the amount of resources used each day, which allowed the business units to know exactly how much IT resources required to order.

4.4 Responsibilities and Implementation Plan

The overall implementation of the phase approach of the outsourcing contract generally completed within schedule in December 2007 and SSC operation began in January 2008.

An illustration of the responsibilities and implementation timeline for the best sourcing on shared services shown in appendix C. The following process described the implementation activities:

1. **Setup Management Steering Committee**. This committee was chaired by the CEO and were represented by top management to lead the decision to adapt and implement the concepts and processes of the shared services. The CEO, who was the project sponsor, provided the final authorisation and authority over this project. The Deputy CEO acted as the project champion to ensure success of the project. The Chief Information Officer, CIO, who was the project manager, was responsible for project outcome, adherence to timeline, constraints and the formulation of the resources and project plans. The top management approved on the selection of best sourcing service providers and agreed on the scope of services provided.

2. **Selected/Identified Working Group**. Roles and responsibilities were defined in the working group. The core members of the working group were business unit managers who must be knowledgeable with the expected outcomes and performance requirements of the function. Specialists from finance, HR, supply-chain, IT and legal departments were also being brought in to the Working Group.

3. **Developed scope of shared services**. The working group developed a Statement of Current Operations (SCO), which described the present operations, the desired outcomes, the performance measurement and acceptable performance standards. The working group worked with incumbent staff to document existing business processes, verify work and resources that were best sourced,

4. **Redesigned business processes**. The working group worked together with the incumbent staff to identify necessary changes to end-to-end processes and service interfaces to maximise efficiency, streamlined and consistent IT services delivery.

5. **Developed Sourcing Plan**, which included the objectives of Best Sourcing the business function, the timeline and milestones, desired outcomes and performance measures and procurement strategy.

6. **Developed Staff Transition and Communication Plan**, which included the communication schedule, the estimated number of staff who would be made redundant and the estimated cost of staff compensation, possible redeployment, plans for outplacement services, plans for accountability transfers.

7. **Described current operations and streamline business processes**. **Derive In-House Cost of Operations (IHCO)**. The cost of in-house operations was estimated after the restructuring. The in-house cost estimate was compared against the prices submitted by private service providers to determine if PPS would enjoy better value for money by outsourcing. The internal cost of operations was sustainable, *i.e.*, it was not ad-hoc or temporarily realised after the restructuring. The technical specifications used for developing the in-house costs was no different from the specifications used for the tenders which PPS intends to call, in order to ensure comparability and to avoid duplication of efforts.

8. **Market Tested through RFI/RFP/Tendering**. PPS sought proposals from the private sector through the Request for Information (RFI), Request for Proposals (RFP) or Tendering process. RFI was used to gather information from the private sector, but it could not award a contract through RFI. PPS called a RFP/tender to award the contract if the private sector was more efficient than the in-house business unit.

9. **Developed ERP for Shared Services**. Based on the analysis of a streamline business process that was carried out in Stage 4, PPS worked with the Best Sourcing service provider to develop an ERP system that integrates supply-chain and resource management for delivering IT shared services. An open and efficient

information exchange between service provider and business units in PPS was developed.

10. **Pilot Runs and Fine-tune Business Processes.** Both of the best sourcing service provider and PPS conducted testing to ensure that the new streamlined and standardised processes work. Gathered feedback from stakeholders and service providers and did fine-tuning business processes.

11. **Staff Transition Plans**. If a business function was being outsourced, PPS needed to finalise the business and staff transition plans.

12. **Implemented Transition Plans** to ensure minimal disruption to service delivery and performance levels. Training would be provided for staffs that have taken on new functions.

13. **Performance Management at Service Delivery Level.** Active management and regular reviews of service delivery were required to ensure actual service delivery was aligned with planned services. Best sourcing providers conducted regular customer forum to improve service delivery performance. Mechanisms were established to allow PPS to provide feedback and escalate issues for reviewing. In order to drive innovation and continuous improvement, former staff working within the service providers should continue to maintain close working relationship with their former organisation and develop and understand their new client's business.

14. **Contract Management and Post Implementation Review**. Contract managers should monitor performance levels and conduct post-implementation review (PIR), within next 6-12 months of project completion.

5 Risk Assessment in ICT Best Sourcing

The following risks in ICT Best Sourcing were assessed on the five basic aspects of operational risk - people, process, technology, operational and other risks.

5.1 People Risk

The inherent of People risks generally exist in PPS due to the following reasons:

a. *Culture differences* - Different cultures and different approaches to problem resolution give rise to both systemic and processes risks.

b. *High turnover rates* – With increasing opportunities in local job market, about 80% of PPS staff did not stay with this outsourcing assignment for long durations. As a result, PPS had to share proprietary process knowledge with larger set of external people who might not remain in this outsourcing project after a while.

c. *Security risks* – Due to the high turnover rates issues, there was also the issue of new personnel movement contracted from FutureTek. Most of the contracted staff from FutureTek was recruited from other existing accounts, when it has to serve several indirect competitors from the private healthcare service providers, which means having to keep confidentially about the information corresponding to all of them. This led to potential security problems and the added risk of additional knowledge transfer to other indirect competitors outsourcing may generate.

d. *Jobs loss* – Actual loss of jobs at PPS due to outsourcing of shared ICT services to FutureTek may lead to staff dissatisfaction. Laid-off staff may pose security lapses, and surface of technology or process risks due to attrition arising out of a potentially unstable environment.

e. *Knowledge transfer gaps* – The effectiveness of knowledge transition process was one of the critical success factors of this outsourcing arrangement. Very often, it had been

noticed that lack of domain knowledge severely limits understanding of the fundamental concerns of the business users. This could lead to significant increase in operational risks faced by PPS as these contracted FutureTek employees might take actions or decisions not appropriate to situation. In addition, this process might not be comprehensive as PPS's employees chose not to share complete information in order to safeguard their own employment.

5.2 Process Risk

a. *Governance of process* – One of the major process risks was that PPS and FutureTek did not develop a governance teams initially to cover the governing of outsourcing processes. There were different interpretations of contract terms with respect to scope of work and financial responsibilities, especially in the statement of work (SOW) and the price book (charging mechanism).

b. *Quality of process* - In outsourcing engagements, the service provider, FutureTek, essentially became an extended arm of PPS processes and performance directly impacting service or product quality. If these processes were not robust and did not conform to quality standards, it could lead to unpleasant surprises for the organisation. In this case, lack of a constantly monitored and effective knowledge management process made FutureTek heavily dependent on certain key people, who were perhaps anyway the most hunted staff in business, and hence if they leave the organisation, retraining and process knowledge might delay resource acceptance levels, resulting in immediate performance issues.

c. *Response time* – Business users at PPS expected faster response time and because the collaboration was not built into the process initially, service requests were not categorised, and thus did not enable FutureTek to apply the appropriate service process and turn-around times. There was also onsite co-ordination issues, decision-making process and escalation process often slow down - at least initially.

d. *Alignment of objectives and processes* – PPS and FutureTek continued to build close working relationship to align their expectations and goals. Otherwise, FutureTek might

not be able to scale up the processes if suddenly required by PPS due to lack of funds, capability or choice; as it might not be in his best interest.

e. *Management and reporting* - Non-compliance issues were initially reported during the auditing of outsourcing processes and often, reporting on potential issues and risks were not as well documented and escalated, as they typically need to be.

f. *Physical security* - Access to FutureTek's ICT facilities could never be as closely monitored as PPS's own data centre facilities. Even FutureTek's own staff, especially those contracted from foreign countries might be a threat as reference checks and security clearance checks on countries might not be as stringent. Internal leaks are a very real threat.

5.3 Technology Risk

A major failure in the information technology process will severely impact operations and may even stop processing altogether. While traditional risks like fire and flood are relatively containable in the physical world with good communication and continuity systems, network security breaches can inflict damages and losses on others linked to a firm network through the Internet at an uncontrollable rate and with an unprecedented reach. Like any other organisation connected to the Internet for back-office processing, PPS is concerned with several potential points of compromise, such as:

a. *Data theft* - Involving unauthorised insiders or outsiders from FutureTek stealing sensitive information and intellectual property.

b. *Cripple business operation* - By selling sensitive information like password to mission critical systems to attackers, they could gain access to an insecure computer network and use it to launch attacks on the other networks. If any of the disgruntled FutureTek staff compromised any security weaknesses at multiple points, attackers could use PPS's systems as "zombies" to target denial-of-service assaults.

c. *E-mail compromise* - Places organisations at risk of unknowingly spreading a virus or Trojan horse and harbouring legally sensitive unprotected e-mail content.

d. *Website exposures* - Occurs when PPS's website becomes unavailable or is maliciously altered to include erroneous information.

5.4 Operational Risk

The operational risks are closely associated with technology failures, obsolescence or data, and can be broadly classified as:

a. Risks associated with information sensitivity/information availability
b. Information and data security
c. Risks associated with performance of technology systems
d. Risks associated with transaction processing
e. Risks arising due to non-availability of Business Continuity Processes and disaster recovery systems
f. Risks arising due to technology obsolescence
g. Risks due to virus and malicious attacks

5.5 Other Risks

Reputation Risk and Legal Risk – PPS considered such risks as part of potential operational risks in outsourcing. Perhaps the greatest risk of all in the e-business world is the harm to reputation and the catastrophic, unlimited financial consequences and sparked public outcry of "no-confidence" that could stem from liability claims by damaged stakeholders (customers, political leaders, shareholders, *etc*). As the Internet continues to evolve as a business tool, stakeholder accountability will be the prime motivator and in certain events a possibility for criminal action. Some of the horror stories could come true if:

a. PPS's government secrets are stolen and used against PPS,

b. Productivity loss due to system crashes throughout the interconnected supply chain,

c. Public display of intimate and sensitive information by a hacker,
d. Loss of staff morale when internal hackers gain access to private human resource records,
e. Liability claims that result from digital risk exposures inherited from this outsourcing arrangements.

5.6 ICT Outsourcing Decreases Overall Operational Risks

PPS have mitigated most of the risks that discussed earlier in this chapter. This was because PPS aware of them and followed a methodical risk management approach. Some of the areas where PPS could see a significant reduction in operational risk due to effective outsourcing include:

a. Lower risk probabilities due to better processes put in place at the external service provider site, *i.e.*, FutureTek.
b. Improvement in process and operational performance due to value-additions provided by FutureTek.
c. Risk alerts are more closely watched as the highly reputable and established outsourcing organisation like FutureTek is more liable than the less established ones.
d. Business continuity plans, which included disaster recovery processes at geographically disparate sites, are comprehensive.
e. Knowledge transfer and wider availability of knowledge due to deployment of specialist staff in the training function.
f. 24x7 extended support to all business units to provide faster response time.
g. Improvement in technology meant that systems could be maintained remotely, making them less liable to failure on account of more staff, better processes and 24x7 supports.
h. People-related security risks are minimised by good security policies. PPS negotiated rigorously on the policies and procedures within the outsourcing contract to ensure that ICT and people security objectives (effectiveness, efficiency, adequacy, integrity, validity, authorisation, privacy) continue to be fulfilled by FutureTek.

Regardless of the adequacy of checks and balances during the outsourcing arrangement process, the management at PPS agreed that an effective risk management in outsourcing would provide a lower operating cost. As a result, it would "help to reduce direct losses to customers arising from operational failures at PPS and FutureTek" and mitigated the "frequency and impact of operational losses that may deplete PPS's financial resources" that might possibly arise from potential loss of control over outsourcing arrangements. Therefore, PPS developed a comprehensive operating model to support an integrated, end-to-end process execution with appropriate controls in place for compliance and to manage business risks.

Through this short-term outsourcing arrangement, PPS was driven by the desire to deliver short-term of 5 years in cost savings. FutureTek met PPS's goals and satisfaction by delivering excellent service performance with economies of scale at a substantially lower cost base and mature processes. The top management at PPS hopes that such outsourcing contracts when long and properly framed and has a long-term committed management buy-in from both parties, which would work closely and continually deliver significant results, not only in improved bottom-line performance but also in reducing overall operational risks.

5.7 Gain-Sharing Mitigates Outsourcing Risks

One of the potential risks often reported from unsuccessful outsourcing experience is where service providers failed to meet expected service levels. To mitigate such risk and to ensure the expected cost savings, PPS adopted the gain-sharing agreement model, as suggested by Jeffery D Zbar (2003) (see appendix G), which can be applied to ICT outsourcing project and to Service-Level Agreements (SLAs) for the management of ICT services and infrastructure. In such gain-sharing arrangements model, payments to the service provider, FutureTek, should be determined by performance against SLAs, which should link FutureTek's performance to the business benefits delivered to PPS. Financial remedies for underperforming on SLAs should be determined by the business impact of under-delivery. SLAs that include gain-sharing provisions overcome many of the risks associated to the traditional "penalty-based" approach to SLAs, which can actually encourage inappropriate behaviour on the part of the FutureTek. Some of the risks that resulted in inappropriate behaviour encouraged by traditional SLAs are:

a. The service provider may under-perform for the first half of a month, but meets the SLA by over-performing during the second half. Although FutureTek has met the SLA in subsequent months, the adverse business impact in the first half of the month may be significant.

b. Poor performance in the first week of a month may result in the service provider reaching the maximum monthly penalty payable for that SLA, giving it no incentive to improve performance for the rest of the month.

c. Individual SLAs are often set for components of a system (such as the server, network or LAN and desktop) rather than the end-to-end service. Although 99.5% availability SLAs may be achieved for each component, a key application may have only 98% availability. However, no penalty would be payable because each of the individual SLAs had been met.

d. The service provider may fail to achieve certain SLAs, but ask for the penalty to be waived on grounds such as skills shortages, asserting that it has not adversely affected the PPS. PPS agreed to this request to maintain a good working relationship.

e. The service provider may find that additional resources are required to meet the SLAs, but opt to pay the penalty because it is less expensive than drafting in more resources. PPS's business suffers as a result.

f. The service provider may find that it can exceed SLAs in one area, collecting service credits that offset a below-par performance (and the penalty) in another area.

g. If SLA targets are set at realistic, necessary and achievable levels, the payment of financial remedies for under-achievement should reflect the resulting impact on the client's business. Perversely, rewards for over-achievement can often be paid for levels of service that are not necessary for the client, and which adds no business value.

5.8 Gain-Sharing Brings Collaboration

Gain-sharing ensures that both parties adopt a "partnership mentality" and thus benefit from a cooperative and collaborative relationship. The CEO of PPS said, “We believe, and they do too, that you are better working together to make the profit pile bigger rather than just arguing over the contract”.

For PPS, gain-sharing SLAs:

a. Ensures that payments for over-achievement on SLAs commensurate with the increased business benefit.

b. Quantifies and shares risks and benefits with FutureTek more equally.

c. Provides a contractual link between business goals and IT functionality.

d. Provides at the contract development phase, an additional measure of the FutureTek's understanding of PPS's business and technology issues.

e. Forces FutureTek to identify and quantify business metrics and to understand the impact of IT performance on business.

f. Defines project success in terms of business success.

For FutureTek, the external service provider, gain-sharing SLAs:

a. Matches business benefits for PPS with performance targets.

b. Highlights value, or the lack of value, by tying increased or reduced payments to specific PPS business metrics and key performance indicators.

c. Demonstrates FutureTek superior knowledge of PPS's business metrics.

d. Highlights FutureTek ability to both measure and improve PPS's business metrics.

6 Overcoming Barriers

Gaining buy-in from the top management in PPS is often a barrier and critical in creating and sustaining the momentum required for the shared services transformation. This is particularly true in the public sector, where high-level individuals or steering committee members are needed to encourage business unit managers and end users who may resist change.

In PPS, the top executive management's continued sponsorship throughout the transformation process is one of the critical success factors for overcoming resistance and ensures that the shared ICT services and best sourcing processes were up and running within the expected timeline and in accordance to the outsourcing contract. In addition, strong and compassionate leadership in PPS were instrumental in overcoming scepticism and territorialism in creating consensus among a broad group of stakeholders with widely divergent views, such as staffs, business unit managers, users/customers and unions. Most importantly, PPS took measures to ensure that all stakeholders could pick-up and understood the benefits derived from a proper implementation through communications and bringing stakeholders for cooperation in the project team and ensure that all parties have a say in the implementation.

6.1 Managing In-House Staff

a. The morale of in-house staff should not be overlooked. The organisation created value to existing work performed by these personnel through job enrichment and empowerment programmes.
b. Continued support to in-house staff is critical for continued quality performance. In this aspect, the organisation should be mindful to recognise and appreciate their services. It is important to conduct regular communication sessions to gather feedback and resolve any unhappiness.
c. As staffs would be working among new faces with diverse aptitude and background, it is important to conduct several rounds of intra-orientation sessions conducted to align expectation and understanding.

6.2 Managing External Service Provider

Retention of adequate qualified and knowledgeable in-house staff was critical to ensure seamless transition to the external service provider.

a. It was useful to have a dedicated project team to work on the outsourcing details with management and the external service provider. The project team could be better focused without distraction from daily operational requirement. This would ensure the right service provider is selected and that the project is less likely to slip timeline.

b. Phased outsourcing would be a better approach than a mass transfer if circumstances allow. For example, the organisation should procure the services of operation executives and supervisors from the supplier company as a first phase to affect better understanding of culture, values and to align expectation. The total mass induction of outsourced personnel could take place in the later phase (Booz-Allen-Hamilton, 2005).

c. Understanding the strengths and weaknesses of the incumbent service provider was just as important as ensuring that the provider understood the business dynamics of PPS. Otherwise, the mismatched expectation could result in high turnover rate among the provider's staff.

d. Having well-defined work processes helped in managing the external service provider as it minimised misunderstanding. Hence, it is good to simplify and standardise the current processes before outsourcing the functions.

6.3 Managing Trust between Customer and Service Provider

All forms of successful relationships are based on trust. To gain trust, FutureTek the service provider must first build a reputation in the market. When providing shared ICT services to PPS the customer, the reputation is crucial. To be able to outsource, PPS must change its mindset to trust FutureTek. FutureTek, the service provider could not create confidence; it must be earned through an ongoing process of overcoming such barrier of gaining trust from PPS. To gain trust, FutureTek must prove competent, reliable and deliver the required level service performance over a long period. FutureTek took the initiative by investing in building relationship among others by organising joint workshops with senior business and IT

management of the PPS, which helped to overcome the problems related to trust and contributed to getting collective support for the changes.

PPS would manage 'trust' using Service Level Agreement (SLA) throughout the outsourcing contract period with FutureTek. The SLA is a tool for managing the risks and trust of an outsourcing situation, both for the customer and service provider. The SLA should specify customer expectations, rules for communication, and responsibilities. However, FutureTek experienced from this ICT outsourcing was that PPS has hidden expectations that are not specified in the SLA. Nevertheless, FutureTek managed well and it overcomes from those hidden expectations.

7 Results of Outsourcing

7.1 Key Drivers of ICT Outsourcing

The key drivers for ICT outsourcing in PPS must relate to its strategic objectives, *i.e.,* to achieve substantial cost reduction and to provide efficient and effective ICT services to support social security services for both internal and external customers. The following four are the key drivers to the success of this ICT outsourcing:

a. *Same or higher level of services at a lower cost* - Achieve greater value for money for PPS, in terms of higher cost efficiency and higher quality in services outcomes;

b. *Alignment with business goals* - Focus its resources on developing competencies in core functions;

c. *Moving towards greater agility* - Improve its ICT operational capability to respond quickly to changing demands when business operations change. In such fast paced environment, outsourcing permits economies of scale by implementing a standard ICT operating environment as they have larger common pools of ICT resources and PPS will find it easier to optimise such resources to quickly meet and deliver the business requirements;

d. *Achievement of industry best practice* – Align with the Singapore government cost efficiency initiative under the Economy Drive umbrella, this seeks to ensure that each dollar spent by the government will deliver the best value for money to the government and taxpayers;

e. *Staff transition* – Offers the staff by way of opportunity, entitlement, *etc*;

f. *Minimising risk* – Put effective risk management practices in place.

7.2 Quality and Service Level Agreements

The obvious decision attributed for best sourcing arrangement in PPS is related to cost efficiency. PPS however, does not ignore quality as an attribute and customer perception as criteria for the quality attribute. In selecting the FutureTek as its outsourced partner, PPS used reputation as means of gauging the ability of its outsourcer as equal criteria for selection, equal to lower cost and greater efficiency of operations.

When SSC started its operations in January 2008, PPS has to continue validating that FutureTek delivers the required service performance levels to the customer. According to Morgan (2004), it is important that service level agreements provisions should include periodic formal reviews to "spot checks" against the appropriate metrics. The SSC management control committee in PPS would monitor and control the FutureTek Shared Service Centre (SSC) on an ongoing basis. There are policies and procedures to monitor service delivery, performance reliability and processing capacity of the shared ICT service provider for the purpose of gauging ongoing compliance with agreed service levels and the viability of its operations. Such monitoring is through the annual review of reports by auditors of the service provider or audits commissioned by PPS.

When negotiating and establishing the terms of the shared services arrangement, PPS management has to ensure that appropriate performance metrics are identified and included, as well as flexibility for change is built-in to the contract. The service activities are formally described and are agreed by both PPS and FutureTek. The contracts contained SLAs and systematic end-to-end metrics existed and combined into the incentive system. The results are used fully to continually improve processes and service performance.

FutureTek SSC would provide a monthly report card to the SSC management control committee that would detail performance against the agreed-upon service level agreement. Measurement would include actual results, monthly volumes of ICT activity and monthly customer satisfaction survey provided to PPS.

From January to August 2008, the overall ICT service levels has been good as assessed by the fact that no service lapse has resulted in cash penalties (see appendix D). PPS feels that the cash penalty clauses in the contract (which are only triggered by two successive service lapses) have

served to motivate FutureTek shared service provider to attend quickly and effectively to service issues.

The FutureTek SSC conducts monthly review on the results of the survey with the SSC management control committee in PPS. If the results of the End User satisfaction survey do not meet the Minimum Service Levels therefore, then the FutureTek SSC shall undertake corrective actions and a repeat survey thereafter, in accordance with End User Satisfaction Surveys (see appendix E) and Communication Plans. In addition, if the results of the repeat survey fail to meet the minimum service levels, FutureTek SSC shall, in the event of such failure, prepare and implement a plan for any deficiencies uncovered by the End User satisfaction survey. FutureTek SSC agrees and shall ensure that the surveys referred to in this appendix E, shall:

a. survey End User satisfaction in relation to all ICT services provided by FutureTek SSC;
b. enable reasonable classification and apportionment for issues which arise; enable analysis according to business units, and user type; and
c. be used as a tool for continuous improvement of the services,

7.3 Critical Success Factors for Best Sourcing

Along this journey to best sourcing and shared services, I have identified the following key success factors:

a. PPS and FutureTek have a good working relationship. PPS designated a Project Manager to be responsible for the overall relationship between it and the FutureTek. FutureTek also designated a Project Manager. A detailed statement of work was developed defining the requirements and scope of the project.
b. Open communications between the team and various business units helped identify what worked and what could be improved. Regular meetings occurred with the various business lines before and throughout the project. It was necessary for FutureTek project team to work closely with the PPS ICT support teams to identify pertinent ICT

services and operations that needed to be packaged. In addition, PPS's business-units managers were engaged to minimise disruption to production business activities.

c. Cooperation and clear roles and responsibilities were defined, which helped avoid confusion and "finger-pointing". In this case, PPS and not FutureTek, as service provider, had overall responsibility for the project.
d. It was imperative to establish early on high-level executive support and firm commitments from top management for the project. This is critical to project success, because not only is technology being changed, but work practices and culture also are being changed.
e. Top management in PPS supported the move to an ICT standardised operating environment across the business units to bring the both ICT services and operations to a higher level of availability, increase security and reduce costs. In addition, because most staff typically used a limited suite of applications, moving to a standardised environment would not restrict business execution.
f. It was essential to have a well-designed communication plan and processes so the changes in the environment could be communicated properly throughout PPS. In addition, such communication plan would move people in PPS through the natural resistance stages into the commitment stage more quickly.
g. This project was able to accomplish towards lean ICT shared services effort primarily because of a clear mandate from the CEO and Deputy CEO in PPS. The head of the Department of Finance is among the most important project members and was able to get a commitment from the CEO that participation in the effort was mandatory for the rest of the business units in PPS.

7.4 Benefits

One of the key benefits of Best Sourcing the IT support services expected to achieve is that it enables PPS to concentrate on core business functions while leaving non-strategic functions to the external service provider. This results in better management and control of business-critical activities.

Similarly, PPS is able to leverage on the expertise and knowledge of its external IT service provider. In addition, they have access to wider network of consultants both locally and worldwide. As a result, overall service level improves. For examples, there are improvements in the turnaround time taken to provide maintenance and to make specification changes. In addition, computer maintenance times drop from more than a week to less than a day, which radically improved the ICT service delivery lead-times.

Furthermore, a standardised environment will reduce the time and costs required to implement new ICT services and minimise incompatibility problems. For example, anti-virus patches can be distributed speedily to all desktops and servers in the event of a virus threat. Previously, this cannot be done centrally, personal site visits have to be made, and oftentimes, involving individual computers. With a standardised environment, service-wide systems can also be deployed faster and at lower cost, as there is no need to test the new system in multiple environments.

With the adoption of standardised ICT operating environment, a centralised managed shared services support by FutureTek resulted in:

a. PPS's end user satisfaction survey results showing an all-time high of 9.6 out of a possible 10, reported in June 2008;

b. Exceeded the contractual service-level agreements at an all-time high of 99.99% compliancy in July 2008 (See PPS's Shared ICT Computing Services in Appendix D);

c. After accounting for setup cost as well as recurrent costs, PPS is expected to realise at least 30% net savings per year once such environment is fully deployed.

The standardisation and consolidation of processes in procurement, inventory and support are integral to delivering the benefits of shared services. The benefits are elimination of unnecessary and costly duplication. Hence, the shared services approach reduces the cost of owning and operating IT support services and redirects this investment towards service delivery functions. With the use of ERP as a strategic tool that helps the organisation to improve operation by standardising business processes flow across multiple business units. As all data are kept in a centralised database, it gives greater reporting capabilities and ease of access to business information.

Using ERP on the shared services reduces complexity of procurement, hedge against seasonal demand spike, the purchase order process time is expected to be 1 day (compared to 30 days before), IT supply/demand planning time is expected to reduce from 45+ days to 5 days, maverick buying is expected to be down to 2%, internal staff satisfaction is expected to be increased to 65%, and improvement in the ability to leverage PPS's IT buying clout via its organisational-wide information sharing capabilities. To provide these quality assurances and flexibility, FutureTek, shared service provider is located onsite in PPS. Both PPS and service provider are finding that close working relationship are cost-effective, leading to innovative ideas and decrease resources and supply times. In addition, business units' managers are increasingly supporting the move to a standardised environment across business units to bring shared ICT services to a higher level of efficiency and reduce cost. Therefore, due to increase in outsourcing ICT services to FutureTek, more manpower savings would be transferred to the higher end jobs that focus on Quality Assurances programmes in supplier management.

In this best sourcing on shared services arrangement, the staff and assets such as hardware and software for computers will be transferred to the external service provider for the period of the contract. Using current and past years' expenditure patterns, it was projected that it will cost PPS SGD33 million to manage the IT operations in-house over the next 5 years. This works out to an average of SGD6.6 million per year, (see table 1 in appendix F).

The best sourcing and shared services is expected to eliminate duplicated services and enjoy an expected cost savings of SGD 2.338 million, which is 16% lower than current expenditure and yet very much larger in scope as compared with existing in-house works.

Lastly, the restructuring to include new, enhanced shared-services affiliates can help multi business units across the organisation to transform their services models by increased efficiency and cost management, (Schulman, Donniel S. et al., 1999).

8 Lessons Learnt

I learnt the following lessons from my experience in setting up a shared ICT service arrangement:

- It was critical to minimise service disruption during transition. My observation was that the project team ensured that the rate of transition was such that the organisation can absorb the changes and embed them into their retained business. For example, minimise the need for dual working on both old and new ICT processes/services concurrently.
- During the cutover, I found that it was important to discuss opportunities to convert incumbent PPS staff with desired skills and experience to the new SSC support model and informed them of the transition process to minimise impact on service disruption.
- I have to deal with uncooperative business unit managers who were unhappy about migrating to a shared ICT service environment that can be disruptive. The relationship between FutureTek and PPS need to undergo the normal phases of "forming, storming, normalising and performing" in order to gradually overcome this problem.
- I realised the importance to retain the right mix of skilled staff in PPS. With traditional outsourcing, many organisations did not retain adequate staff for key service management roles, as well as IT specialists. I have seen some other government agencies retaining too many and sometimes the wrong staff.
- I found that some of the PPS staff often ignored the transferring current process documentation when moving to the new SSC environment. PPS staffs were reminded not to overlook such documents that contain current process requirements.
- I observed that the project team in PPS emphasised the importance of successful transition project requires proper project plans and statements of work, a reasonable-cost basis and appropriate resource allocation.
- Some business units might have been camouflaging problems with internal processes. When the new SSC arrangements were put in place, FutureTek was blamed for these problems, even though they are pre-existing. I learnt that adequate due diligence is required to be performed in each business units on the processes and relevant business data to be transferred to SSC. These issues would be resolved typically in the bedding-

down period. In addition, PPS formed the service-recovery teams ready to take on service problems in the early stages.

I found that there was an overriding need to manage for successful service and business outcomes. This is a key difference between operating with an internal service provider, even if it provided operational excellence, and operating in a shared-service environment. The shared ICT service arrangement was concerned with generating business and service outcomes for PPS, otherwise it would be open to criticism and competition from other means of delivering the services. I learnt that FutureTek has to adopt a service mentality in order to survive and to sustain the process. It was crucial to have effective relationship and service delivery management functions in place. PPS should manage each constituent member of the FutureTek as a client and manage their services according to a set of agreed service-level.

9 Conclusions

In this dissertation, I have presented my research on how best sourcing on shared ICT services approach is an effective sourcing strategy to help my organisation improve ICT operational efficiency and delivering higher quality services at a lower cost.

My observations have found that today's best-sourced shared ICT services in PPS have served all of its entire 168 business units as well as external customers, as compared to 86 business units prior to this project. It is an organisation-wide network with consistent quality of service across all business units. As such, I believe that this ICT transformation has been vital to PPS in enabling all its business units to driving better business outcomes with less pain along the way.

From my experience gained in this outsourcing project, I have found that this best sourcing operating model supports and enables the ICT transformation in my organisation from less efficient towards a lean service provider. Beyond relieving inhouse ICT support from silo processes and administrative tasks, I have presented that a shared ICT service provider is able to deliver ICT services in a centralised structure, while improving process and service quality at reduced cost.

From this study, I recognise that ICT outsourcing allows quicker upgrade of technology and process; for example, as external service providers are IT-specialists and are most times well ahead of the firms on the technology curve. This can translate into more efficient processes and systems, which can bring down the risk co-efficient and carry out operations more efficiently. In my view, PPS is able to pass off some of the risks to FutureTek, whose financial terms are determined by service levels, and which are adequately insured. I believe FutureTek, being an experienced ICT outsourcing player could bring with them the wealth of information that they have gained working with best of the breed organisations and their best practices can be shared with other organisations as well.

I believe with this best sourcing initiative, the ITSD of PPS will shift its emphasis from reactive and standalone IT supply-chain and resource management modes to an efficient unified system - ERP. Staffed by more competent and professional staff, best sourcing service provider will

lead, plan and manage computer assets in PPS more efficiently. The infusion of technical expertise coupled with stronger partnerships with the IT industry is set to enhance and sustain the IT project management capability of PPS in the next few years. I would believe that further review will be ongoing to refine and achieve an even more efficient and responsive IT management system for the national social security.

I have successfully developed and applied the following strategic outsourcing strategies to align more effectively with PPS's business objectives:

a. Through maximising the values of shared services, PPS meets the strategic objectives in achieving both cost and operational efficiencies.

b. Take advantage of the external service provider's ability to leverage economies of scale and experience to deliver more-cost-effective IT services.

c. Use gain-sharing agreement with FutureTek to share risk.

d. Reduce the operational risks of managing an increasingly complex ICT operational environment.

e. Change from capital expenditure management of IT assets to a more-predictable, variable operating expense-based financial basis.

f. Improve career opportunities of outsourced and retained staff.

g. Focus attention and efforts on developing innovative social security e-services that would give FutureTek a more distinct competitive advantage.

I learnt that collaboration between PPS and FutureTek is essential, and that it typically takes a year to "settle down" an arrangement of this scale and complexity. Because of the successful completion of most of the transition activities, I believe that the relationship between PPS and FutureTek, is well positioned to expand from an enhancement basis to encompass value-driven business transformation requirements.

Lastly, I learnt that the infusion of streamlined business processes and centralised database in ERP systems provides a consistent and efficient IT supply-chain and resource management. Hence, I recognise that the values creation of such implementation of best sourcing on shared services are worthy of pursuing.

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Appendix A Interview Guide

S/N	Questions
1.	***Background variables***
	• Name of Interviewee • Department • Job Title
2.	***PPS Staff/Management***
	• Can sourcing of ICT operations contributes to the organisation's objectives? • Is it common for companies to have their own ICT departments today? • Which functions do the customers have most problems ICT sourcing? • Which type of personnel and competence should the customer have in-house? • Is it suitable to source the ICT support services, ICT procurement and ICT inventory management? • How do you rate the current ICT service delivery performance? • Do you have the knowledge about ICT sourcing? • If yes, do you have a positive or negative view in outsourcing current inhouse ICT operations to an external service supplier?
3.	***ICT Outsourcing***
	• What are the objectives of outsourcing the ICT operations? • What are the risks factors do you consider in an ICT outsourcing? • Does PPS lose a lot of competence with ICT outsourcing? • Would PPS, by outsourcing, be able to focus their attention on those core activities that add distinctive value to the company? • By collaborating with a service provider, would PPS be able to achieve economies of scale and improve quality in service performance? • What is the cost saving over a 5-year period? • Which sourcing strategy work for ICT operations in PPS? o Best Sourcing; or o Shared Services; or o Both

4.	***ICT Services***
	• Is ICT service suitable for outsourcing? • Which parts of the ICT operations is suitable for outsourcing? Tactically / Strategically? • How will the market and services for ICT develop? • How will ICT shared services look like in the future?

Appendix B Net Present Value Cost Comparison

TABLE 1: INHOUSE ICT COST

	Year 1 (S$)	Year 2 (S$)	Year 3 (S$)	Year 4 (S$)	Year 5 (S$)	Total (S$)
Staff Costs	937,313	984,179	1,033,388	1,085,057	1,139,310	5,179,247
Operating Expenditure (Supplies & Services)	3,727,000	4,373,250	4,591,913	4,821,508	5,062,584	22,576,255
Others	382,000	2,425,000	250,000	1,666,000	585,000	5,308,000
Total	5,046,313	7,782,429	5,875,301	7,572,565	6,786,894	33,063,502
Present Value of Inhouse Costs ($A)	4,577,155	7,058,893	5,329,071	6,868,540	6,155,913	29,989,571

TABLE 2: OUTSOURCING ICT COST

	Year 1 (S$)	Year 2 (S$)	Year 3 (S$)	Year 4 (S$)	Year 5 (S$)	Total (S$)
Contract Price	2,160,000	2,268,000	2,381,400	2,500,470	2,625,494	11,935,364
Administration	720,000	756,000	793,800	833,490	875,165	3,978,455
1-time transition cost	1,120,000	1,176,000	1,234,800	1,296,540	1,361,367	6,188,707
Others	163,680	380,600	488,620	608,080	741,180	2,382,160
Revenue from outsourcing	-	(84,000)	(132,300)	(185,220)	(243,101)	(644,621)
Total	4,163,680	4,496,600	4,766,320	5,053,360	5,360,104	23,840,064
Present Value of Outsourcing Costs ($B)	3,776,580	4,078,549	4,323,193	4,583,546	4,861,772	21,623,641

TABLE 3: COST SAVINGS

Present Value of cost savings arising from outsourcing ($A-$B)	800,574	2,980,344	1,005,878	2,284,993	1,294,141	8,365,930

Appendix C Implementation Time Line for Best Sourcing ICT Shared Services in PPS

Steps	1st month	2nd month	3rd month	4th month	5th month	6th month	7th month	8th month	9-12th month	13th-18th months	19th-24th months
1	Setup Mgmt Steering Committee										
2	Identify Working Group										
3		Develop Scope of Shared Services									
4		Redesign Business Processes									
5				Develop Sourcing Plan							
6				Develop Staff Transition and Communication Plan							
7					Derive IHCO						
8						Tendering					
9							Develop ERP & ICT infra for Shared Services				
10							Pilot Runs and Fine-tune Business Processes				
11								Staff transition plans			
12									Implement Transition Plans		
13										Operation of SSC and Perf Mgmt	
14											PIR

Appendix D Monthly Service Level Agreement

PPS's SHARED ICT COMPUTING SERVICES

Server Category	Expected SLA	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Expected Performance	**98%**	100%	100%	100%	99%	100%	100%	100%	100%				
Below Min Performance	**0%**	0%	0%	0%	1%	0%	0%	0%	0%				
Fee Reduction					Yes								
Incentive													

	ICT KPI	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ICT Service Uptime		99.92%	100.00%	100.00%	99.98%	99.93%	99.99%	99.99%	99.99%				
LAN Service Uptime(YTD)	**99.92%**	99.92%	99.996%	100.00%	99.994%	99.998%	99.99%	99.99%	99.99%				
E-Service Uptime		99.93%	100%	100%	100%	100%	100%	100%	100%				
E-Service Uptime(YTD)	**99.93%**	99.93%	99.95%	99.97%	99.97%	99.98%	99.96%	99.99%	99.96%				

ENTERPRISE NETWORK COMMUNICATION SERVICES

Circuits Category	Expected SLA	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Expected Performance	**98%**	98%	100%	100%	100%	100%	100%	100%	100%				
Below Min Performance	**0%**	0%	0%	0%	0%	0%	0%	0%	0%				
Fee Reduction													
Incentive						Yes							

Network Category	Expected SLA	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Expected Performance	**98%**	98%	100%	99%	100%	100%	100%	100%	100%				
Below Min Performance	**0%**	0%	0%	1%	0%	0%	0%	0%	0%				
Fee Reduction				Yes									
Incentive													

HELPDESK SERVICES

	Expected SLA	Minimum SLA	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
End User Ratings	**85.0%**	**65.0%**	94.42%	95.12%	92.40%	93.96%	93.96%	94.50%	96.20%	95.30%				
Fee Reduction								Yes	Yes	Yes				
Incentive														

Appendix E Sample of End User Satisfaction Survey Form

Form H – 1

ICT SUPPORT SERVICES						
S/No	**Questions**	**Delighter 10 9**	**Performance 8 7**	**Basic 6 5**	**Below Basic 4 3 2 1**	**NA**
01	Email Systems - Availability - Response Time					
02	IT Procurement Systems - Availability - Response Time.					
03	IT Inventory Management Systems - Availability - Response Time.					
04	SAP ERP Systems. - Availability - Response Time					
05	File & Print Systems. - Availability - Response Time					
TECHNICAL SUPPORT						
S/No	**Questions**	**Delighter 10 9**	**Performance 8 7**	**Basic 6 5**	**Below Basic 4 3 2 1**	**NA**
06	Timeliness (within 2 hrs from problem report time) of Provider response to problems for technical support.					
07	Timeliness (within stated Service Levels on request form) for technical support or consultancy e.g. setup of PC, office relocations, etc., completed within the stated Service Levels.					
08	Quality of Provider's response to problems or requests for technical support or consultancy.					
09	Knowledge of Provider on systems.					
10	General attitude and manner of Provider when serving you.					
11	Overall working relationship with Provider.					

DESKTOP SERVICE - PCS & NOTEBOOKS						
S/No	**Questions**	**Delighter 10 9**	**Performance 8 7**	**Basic 6 5**	**Below Basic 4 3 2 1**	**NA**
12	Reliability					
13	Availability					
14	Performance					
Feedback or Suggestions:						
Feedback : How can we serve you even better? **Service Quality :** What do you appreciate most?						

Form H – 2

SAMPLE OF END USER RATING FORM

1. On a scale of 1-10 points, I rate your services provided in terms of:

	Delighter 10 9	**Performance 8 7**	**Basic 6 5**	**Below Basic 4 3 2 1**	**NA**
A. Shared ICT Service Rendered					
• Timeliness (as agreed by user and service provider)					
• Quality, reliability & accuracy					
• Training and user manual					
B. Shared ICT Service Provider					
• Commitment					
• Responsiveness					
• Knowledge					
• Methodical					
• Relationship with user					
• Ability to provide helpful suggestions					
• Ability to give confidence to service provided					
• Cost effectiveness					
• General attitude and manner					
C. Average Rating					
Average rating for service provided by service provider :			**[Rating]**		

2. Suggestions for improvements (especially for areas where ratings are below 7) / Other comments:

_____

_____

Appendix F Cost Comparisons

Table 1: Projected expenditure of the in-house Operations

Inhouse Costs	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Total
Manpower cost of 350 IT Staffs	937,313	984,179	1,033,388	1,085,057	1,139,310	5,179,246
Operating expenditure for running the IT Operations across 86 Business Units	3,727,000	4,373,250	4,591,913	4,821,508	5,062,584	22,576,254
Procurement of computers and IT parts due to maintenance	382,000	2,425,000	250,000	1,666,000	585,000	5,308,000
Total	**5,046,313**	**7,782,429**	**5,875,300**	**7,572,565**	**6,786,893**	**33,063,500**

Note:

1. Yr 1 manpower cost is based on year 2007 from HR. HR also estimates a 5% annual increase for subsequent years.

2. Yr 1 operating expenditure is based on current operations cost in 2008, which is representative of the base operating cost. The cost for Yr 2 onwards is increased by $438,000 to cater for maintenance of the older PCs. The cost for Yr 2-5 is also increased by 5% each year to cater for increase in operations cost due to normal growth.

3. Replacement cost is computed based upon existing equipment reaching end of life.

Table 2: Projected cost of Best Sourcing on Shared Services

Service Provider Costs	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Total
Base Charges	4,000,000	4,200,000	4,410,000	4,630,500	4,862,025	22,102,525
Growth in IT systems (e.g. growth in computers)	163,680	380,600	488,620	608,080	741,180	2,382,160
Total	**4,163,680**	**4,580,600**	**4,898,620**	**5,238,580**	**5,603,205**	**24,484,685**

Note:

1. Base Charges are based on the FutureTek SSC service provider's estimated charges. Assume 5% increase in charges annually.

2. Growth in computers is based on projected normal growth for these systems. The estimated service charges are based on cost of the asset amortised over its lifespan *i.e.,* 5 years + 10% resource management cost.

Table 3: Projected expenditure after Best Sourcing on Shared Services

Total costs after Best Sourcing Shared Svcs	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Total
Service Provider Costs (from Table 2)	4,163,680	4,580,600	4,898,620	5,238,580	5,603,205	24,484,685
Manpower to manage Best Sourcing Shared Services	307,313	322,679	338,813	355,753	373,541	1,698,098
Other operating expenditure not within Service Provider scope	250,000	262,500	275,625	289,406	303,877	1,381,408
Total	**4,720,993**	**5,165,779**	**5,513,058**	**5,883,739**	**6,280,622**	**27,564,191**

Note:

1. Yr 1 manpower cost is based on year 2007 from HR Department. HR also estimates a 5% annual increase for subsequent years.

2. Other operating expenditure is assumed to increases by 5% to cater for increase in operations cost due to normal growth.

Table 4: Cost Savings Comparison of In-house and Best Sourcing Shared Services Options

	Total Cost over 5 years	**Cost Savings of Project**
In-house Option (Table 1)	$33,063,500	-$25,839,263
Best Sourcing on Shared Services Option (Table 3)	$27,564,191	-$23,500,995
Cost Savings		**$2,338,268**

Appendix G How Gain Sharing Is Ringing Up Incentives for AT&T and Accenture

How Gain Sharing Is Ringing Up Incentives for AT&T and Accenture

By Jeffery D. Zbar, Business Writer

With competition growing among long distance and local service providers, AT&T, the communications services corporation, was examining creative ways to leapfrog its competitors and link its customers with the most appropriate calling plans quickly and efficiently. The answer was to use sophisticated tools and technology to get to know each of its customers and then link them to the right plan. In part, this meant understanding individual consumer call volumes and payment habits. The company didn't want to strap small users with expensive plans that would burden them come month's end.

"We have a comprehensive offer portfolio," says Chet Oldakowski, operations vice president for AT&T consumer services, "but we recognised that linking the right offer to the right customer in real time could put us a step ahead of the competition." Currently AT&T has 40 million residential customers and 4 million business users.

What's more, the right package sold to the right customer would help AT&T better manage its collections and bad debt. By tracking customer payment histories, propensities, and calling patterns, managers can learn which calling plans and programs best suit a given type of customer. This information helps match customer to program and increases usage and payment ability.

In 2001, Accenture, a global outsourcing service provider based in New York City, approached long-time client AT&T with a proposal: Accenture would use its own understanding of AT&T's customers to transform AT&T's relationships with Accenture to create "new thinking in technology, workforce management, and cost savings," says Andrew Blanchard, a partner with Accenture's Communications & High Tech group. This project, called Kaleidoscope, was a five-year, $2.6 billion co-sourcing deal designed to transform the phone company's front

office service and sales operations with back office systems management. "We were suggesting a pretty comprehensive change to the customer experience," Blanchard recalls.

It was followed in March 2003 by another program, this time a five-year, $500 million program to position AT&T's product development to proactively align its products based on consumer needs, habits, and propensity to pay. The initiative sought to transform AT&T's residential credit and accounts receivable management functions to support AT&T's expansion into the local services market.

Previously, AT&T might have overlooked certain customer segments because credit and payment information suggested certain customer groups might not have had the ability to pay, "which might not have been the case," says Oldakowski.

The motivation for the initiative is clear: Placing the right customer in the right calling plan would encourage more timely customer payment, thereby easing collections and enhancing the company's revenue stream, Oldakowski says. Accenture could help by better identifying best-case scenarios for tagging customers with programs. Ultimately AT&T would stay closer to its customers by providing a product more closely created to customers' needs.

Through their combined efforts, the companies project cutting costs in half through deploying new technology and improving process and performance management techniques.

A New Business Model

The AT&T/Accenture co-sourcing arrangement represents a new business model for managing outsourcing relationships, notes Carrie Lewis, senior analyst with the Technology Management Strategies group at Yankee Group in Boston, Massachusetts. Where "mega outsourcing deals" often were maligned as potentially being slow and unresponsive in the face of fast-paced technology changes, the March 2003 program could become the model for strategically and more effectively managing outsourcing relationships, Lewis says. Done right, it will improve programs, grow the relationship between buyer and supplier, keep AT&T close with its

customers, and ensure the majority of those working the initiative are with AT&T - as opposed to wholly outsourcing the program, Lewis says.

Moreover, a gain-sharing agreement based on hitting certain project milestones adds strength to the relationship, she adds. This "mega-deal" could define how sellers and buyers work together in the future, "promising efficiencies and costs savings not possible any other way," she notes. Accenture brings thinking and insights clients don't typically exercise with their initiatives. Additionally, this deal is narrower, more focused, and shorter in duration than some previous outsourcing deals - and provides Accenture a piece of any gains it produces. It might be the wave of the future.

"This progressive growth versus mega-deal model gives AT&T and Accenture increased overall flexibility, allowing AT&T the freedom to move in different directions and expand into new markets as needed and Accenture the ability to provision AT&T with expanded capabilities and service portfolios as needed", Lewis writes in a review of the deal.

Further benefits include using predictable consumer habits to create better product offers at the right time for the right market. Direct mail and telemarketing initiatives will be more focused with improved product offerings. As Oldakowski says, this will provide the company with "predictability to do better targeting."

Buyer, Supplier Both Win

What did Accenture know that AT&T didn't in order to make this initiative work? It's more a question of what Accenture stood to gain and where incentives and benefits aligned. Simply put, Accenture was incented to perform. The arrangement was negotiated to ensure either mutual benefit or pitfalls. In these arrangements, suppliers are motivated by the potential to share profits or other financial gain. Similarly, AT&T has an "out clause" in the contract allowing it to withdraw at any time and enjoys a guaranteed benefit stream anticipated from the program. For its part, Accenture receives a share of the additional revenues derived from the initiative.

Additionally, flexibility and a philosophy of "cohesion" between parties make the program more amenable to each. Accenture can bring additional initiatives to the program - with the goal of delivering success for both organisations. To wit, there were 50 such initiatives in the first wave that debuted this spring. This leads to greater mutual incentives. And with an "evergreen" approach to creating new initiatives, the program remains flexible to expand in the future. "This is a revolutionary concept," says Oldakowski. "We were able to mitigate risk, guarantee financials, and provide incentives for both parties to win by having aligned goals," he says.

The new model has strong possibilities for the future, Oldakowski continues. AT&T can design better calling plans. Customer care centers and sales channels can work to reach out to certain customer groups. While Accenture created much of the modeling and initiatives, the two work together on planning, and customer service representatives from AT&T still handle outreach.

"It's not about one expense line, it's about how it benefits the business," Oldakowski says.

Lessons from the Outsourcing Journal:

- Align incentives and benefits. The supplier must be motivated by potential sharing of profits or other financial gain to make the program work. Similarly, the buyer should contractually be allowed to withdraw at any time.
- Both parties must be focused on one goal: those mutual incentives.
- Select an evergreen operating model. Depending on the size and needs of the buyer, such a BTO arrangement should be broad enough to encompass future initiatives.
- Be flexible. Buyer or supplier should be able to bring initiatives to the table.

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